



The
**MODERN
HOSPITAL**

Vol. III

October, 1914

No. 4

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THE MODERN HOSPITAL

*A Monthly Journal Devoted to the Building, Equipment, and
Administration of Hospitals, Sanatoriums, and Allied Institutions,
and to their Medical, Surgical, and Nursing Services*

Vol. III

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THE HOSPITAL AS AN EDUCATIONAL INSTITUTION.¹

**Story of the Development of the Modern Hospital—Medical and Surgical Efficiency
Spell Success—Reports Must be More Instructive—Trustees Have Serious
Duty—Criticism of Some Hospital Defects.**

By C. H. MAYO, M. D., ROCHESTER, MINN.

THE development of the modern hospital has been an achievement of the present generation. To be sure, hospitals of some sort had been in existence probably as long as higher intelligence had existed in the human race. They had been developed to care for the poor and the friendless of large communities, and were patronized only by those of the better classes who lived at considerable distance and came to secure the services of a physician or surgeon of great reputation or because there was none available at their homes. Consequently the greater capacity of the hospital was in wards, and the few private rooms were for isolation and moribund patients. Hospitals were then the social meeting place of all varieties of germ life, of which danger the profession was ignorant, and hospital gangrene was very common among the injured and those operated on.

Asylums for the insane were more in the nature of prisons than hospitals—their caretakers were jailers. Although long ago the chains were struck off from the unfortunate inmates, there was but little about such institutions to give confidence that those confined therein would ever sufficiently recover to be released.

For a hundred years there had been but little progress in medical treatment. What made the great stimulus to hospital development? It was Lister's appreciation of the work of Pasteur concerning germs, their growth, the results of their activity, and the methods of destroying them. This knowledge, applied to medicine and especially

to surgery, revolutionized the practice of medicine. As the science of surgery developed, a new zest was given to the study of the body and its diseases. By the application of these principles the dangers from surgery were minimized, and it became possible to study disease, infections, and growths in their varying stages in the living; their life history became known, and methods of cure were developed. While the study of the dead had taken the science of medicine far, it now advanced by leaps and bounds. It was shown that the diseases which terminated long illnesses were often to be avoided, since they were due to secondary and complicating conditions. As science and art developed in the old hospitals, new institutions sprang up like mushrooms the world over, since the applied idea was essentially institutional. The public began to appreciate the fact that better care and closer supervision could be obtained in a hospital than in a private home, and indeed that *only* in such institutions could the best care be given them.

Second only in importance to the medical staff of a hospital is its nursing corps, and much of its reputation depends on the efficiency of the nurses. In the old days outside of denominational hospitals, especially in Europe, nurses were constantly changing, and were often recruited from among the unfortunate girls and homeless women too active to warrant being supported either in a poor-farm or workhouse. This made it more difficult to secure girls of the better families and higher intelligence abroad to take up the profession of nursing. The condition is now changing in Eu-

¹Read at the sixteenth annual conference of the American Hospital Association, St. Paul, August 25-28, 1914.

rope, and within the past few years a great improvement has been made in this regard. In our newer country, not bound down by traditions, nursing has always been looked on as a noble profession, and, when hospital activity developed some thirty years ago, making such tremendous strides, the training schools were filled with the best young women of our nation. The training these women receive, coming as it does after a high school or college degree, is a liberal education in itself. The instruction in domestic science and the care of the sick, the general knowledge of disease, especially the care of contagious and infectious diseases, will add much to the development of our country in the influence exerted on it in later life by nurses and ex-nurses as members of civic bodies that demand protection for children, school inspection, and an efficient public health service which insures pure food and drinking water and perfected sanitation.

Europe is far ahead of us in the establishment of large hospitals supported by the city, the provinces, or the Government. The hospital there is considered an economic institution of great value, that the sick, injured, deformed, and crippled be as completely and quickly restored to health as possible. In all of the countries of Europe the care and protection of the individual stands far in advance of the attention devoted to agriculture. In our country we have a secretary of agriculture as a member of the cabinet, but there is no cabinet officer who has the conservation of human life in his charge. This subject rests with the public and the influence that can be exerted on public opinion by the few who have special knowledge.

While there is no national control of public health, there are hospitals in a few states which are a part of the university system, and which are for the better training of students on whose knowledge of medicine will depend the future conservation of the health of its people and also for the training of nurses. Those who live in Minnesota are to be congratulated, first, on the inherent wealth of the state and the fact that its public lands held for educational purposes were held as state property through the honesty of our state officials of an early day. The school iron lands of Minnesota are returning an increasingly great amount of money to be used for educational purposes. We have had for many years one of the finest universities, and have recently established the nucleus of a university hospital, with an efficient training school for nurses. The state superintendent of public instruction of New York has said that our university hospital training school system for nurses is the best planned in America.

Our state hospitals for the insane are of the highest order. The mentally deranged are admitted as sick patients and treated as such until they can be without question placed in the class of curables or incurables. Considering what has been done for the mentally deranged, it is but a step to see in the future the establishment of hospitals for the cure of drug habits, morphine, cocaine, and the like, and of asylums for the treatment of the inebriate; inasmuch as the state licenses, as a business, institutions for his destruction, it is thereby in a sense responsible to him. Drug stores should be licensed, as they frequently supply both drugs and liquor to the mentally deficient, and only in this manner can they be effectually controlled by the possible loss of their license. In this class I would include the self-dispensing physician.

The control of contagious and infectious diseases is much easier, since special hospitals have been established for their care. Those who have been patients in these institutions have gained and disseminated knowledge of such diseases, and laws are thus more easily enforced with regard to their control, being supported by public opinion. It is fairly well understood now that such diseases should be under control and that the so-called diseases of childhood are not necessary. Many states, Minnesota among them, have established sanatoriums for the care of the tuberculous. Those who live in sanatoriums even for a time are less a menace to others because of the knowledge they acquire of disease and its causes. The public will shortly insist that bovine tuberculosis can and must be prevented.

HOSPITAL EFFICIENCY.

Hospitals are state, city, denominational, charity and private. Their responsibility to the state seems to terminate with the yearly report, which is usually of a semi-advertising character. Truthful as hospital reports may be in a general way, they are only fairly valuable as statistics. While indicating to a certain extent the character and amount of work performed, they are of far more value to those directly concerned in the work of the institution than of any special value as education to the profession. There should be a uniform system of keeping records, to be examined periodically by a hospital inspector as to their efficiency, and such inspector should be paid by the state. In the first development of an institution a low mortality is quite a necessity. Later in its life a higher mortality—far from indicating, for example, poor surgery—often indicates a greater effort by a more radical operation to secure permanency of cure; also indicates an acceptance for

treatment of those in whom disease is far advanced, rather than condemning them to suffering and death without effort at relief.

Codman, in an endeavor to make hospital reports of more value, propounds a series of questions to be asked in the individual case as follows:

"What was the matter? Did they find it out beforehand? Did the patient get entirely well? If not, why not? Was it the fault of the surgeon, the disease, or the patient? What can we do to prevent similar failures in the future?"

He divides all results of surgical treatment which lack perfection to be explained by one or more of the following causes:

"Errors due to lack of technical knowledge or skill; errors due to lack of surgical judgment; errors due to lack of care or equipment; errors due to lack of diagnostic skill."

He says these are partly controllable by organization. Failures or partial failures come from patient's enfeebled condition, unconquerable disease, and refusal of treatment, conditions which are partly controllable by public education. There are certain calamities of surgery considered as accidents and complications over which we have no control.

Given an efficient hospital, when should a patient be placed in it? First, for medical treatment, those with acute diseases should receive hospital care at once, that they may derive all of the benefits of the combined experience and knowledge of the staff of the institution. Those with chronic, incurable diseases should be in the institution only long enough positively to determine the character and extent of the disease and its prognosis, and to give instruction for the care of the individual by himself at his home or by his home physician, that he may maintain his ambulatory condition and thus his independence as long as possible. It is as unfortunate to lean on an institution for the relief of chronic disease as to be condemned to a crutch.

SURGICAL CASES.

After the diagnosis is made, a surgical patient should enter the hospital but one or two days preceding his operation, preferably the day before, unless it is necessary that he be for a time under medical observation or preparation.

To answer the question, "What was the matter and was it found out beforehand?" in the present day means efficient team work. It is practically impossible for a single individual to have the personal ability to carry out all of the technical detail of both the general and special examination; in fact, the possible complications may readily prevent a correct diagnosis, except for the efficient team work of specially trained observers.

Surgical judgment and ability comes of experience. Surgical technic requires constant observation and travel if one is to keep abreast with progressive thought.

MORBIDITY.

The morbidity of patients has received marked attention in the study of hospital output and efficiency.

PERIOD IN HOSPITAL.

In the work at St. Mary's Hospital, of the approximately one thousand operations on the appendix and allied organs in the past year, the period in the hospital was barely one week. It is not many years ago that patients were confined to bed three weeks after removal of the appendix. The shorter confinement shows a saving, not to the hospital, but to the patients, of two thousand weeks during the year, or the full capacity of a 40-bed hospital for a year. Again, operations on the bile ducts and the gall-bladder formerly necessitated a stay in the hospital of three to four weeks, yet over eight hundred such cases in 1913 averaged less than two weeks in the hospital, a saving of one bed for approximately thirty-five years; and thus efficiency of output in hospitals, as in any other industry, marks progress. It is claimed by some, more especially those who conduct private hospitals, that those patients do better who are kept a long time in bed and are built up slowly. This is not, however, in accord with the facts, which are that more than a week in bed cannot be spent without a great lowering of the blood pressure, that the early ambulation of patients prevents this lowering of blood pressure and minimizes the heretofore unpreventable complication of pulmonary embolism classed as accidents of surgery. It can be shown that the convalescence is immeasurably reduced by limiting the bed-ridden period to the shortest possible number of hours, and protecting wounds by deep sutures, to be left for a week after the patient is up. As soon as possible, surgical patients should leave the hospital and go to some private home or sanatorium, where they will be surrounded only by patients similarly affected on the road to recovery, and the psychological benefit of this is of enormous advantage. While the large hospitals of Europe, with their spacious grounds, lend themselves to the outdoor life and movement of the individual, the hospitals of our country do not have such advantages as the closed grounds of these magnificent parks. Here they are commonly situated on expensive ground, in densely populated and noisy locations, where only emergency hospitals should be placed. To overcome this handicap, many of the hospitals could build convalescent homes outside of the city, and others

should sell the valuable business property and rebuild or convert it to business purposes as an income to support a modern hospital properly located.

To keep a patient in the hospital longer than is necessary is an unwarranted expense to him or an unjustified tax on those who contribute to hospital expenses, besides keeping some other needy patient from being cared for.

Hospitals are seldom conducted on good business principles. Some members of the board are placed there because they will contribute or are good money getters, and others because of influence. Too often these members are like the business directors who don't direct. When hospitals can be standardized and a Taylor system of efficiency of management be secured, a wonderful improvement will ensue.

Surgical judgment is born of experience in most instances, but could be more quickly and safely acquired if some large hospitals would but give the after-results of certain operations, as, for instance, fixation of the uterus in young married women. This would probably indicate, not the discarding of the procedure as a method, but of its non-use in certain years of life. Why should not the sex organs of the female receive the same consideration for preservation as the male in neurasthenia? Has the average physician ever considered how few questionable procedures are made upon the external body? They are mostly hidden conditions, and often buried. A hospital should be responsible for correct records of all operations and treatments of patients who enter

the institution. This should be made by the superintendent, registrar, or intern, and kept, not for public inspection, but as a record for increasing hospital efficiency. This does not prevent the surgeon from also keeping private records. Such a record, with the percentage of success and failure, and the answers to the questions propounded by Dr. Codman, would give valuable information to be placed before a board of directors, and might lead to the question of why certain surgeons make so high a proportion of curettements and what necessitates such treatment. The report showing the mistakes in diagnosis, and the number of patients who came back for a second operation because the first did not benefit, would be instructive. The number who have evidently more than one trouble, the presence of which could so easily have been found by observation at the time of the first operation, becomes a serious matter when we think of the lost time, double risk, and burden of expense thrust unnecessarily on such patients or on the community.

The character of many operations would lead the board to suspect certain members of the staff of securing much of their business by a secret division of fees. With directors who direct, great improvement could be made by dropping members from the staff or advising others to take special courses in medicine or surgery. It is to be hoped that within the next five years the College of Surgeons of America will do much to raise the standard of American surgery, and make a high standard of efficiency and honesty the ideal of the student of medicine.

ST. LUKE'S HOSPITAL, JACKSONVILLE, FLORIDA.

Group of Buildings Laid Out for Southern Climate—Special Conditions Had to Be Met—Some Unique Features in Architecture—White and Colored Patients Separated—Isolation Follows Pasteur Institute.

By EDWARD F. STEVENS, ARCHITECT, BOSTON.

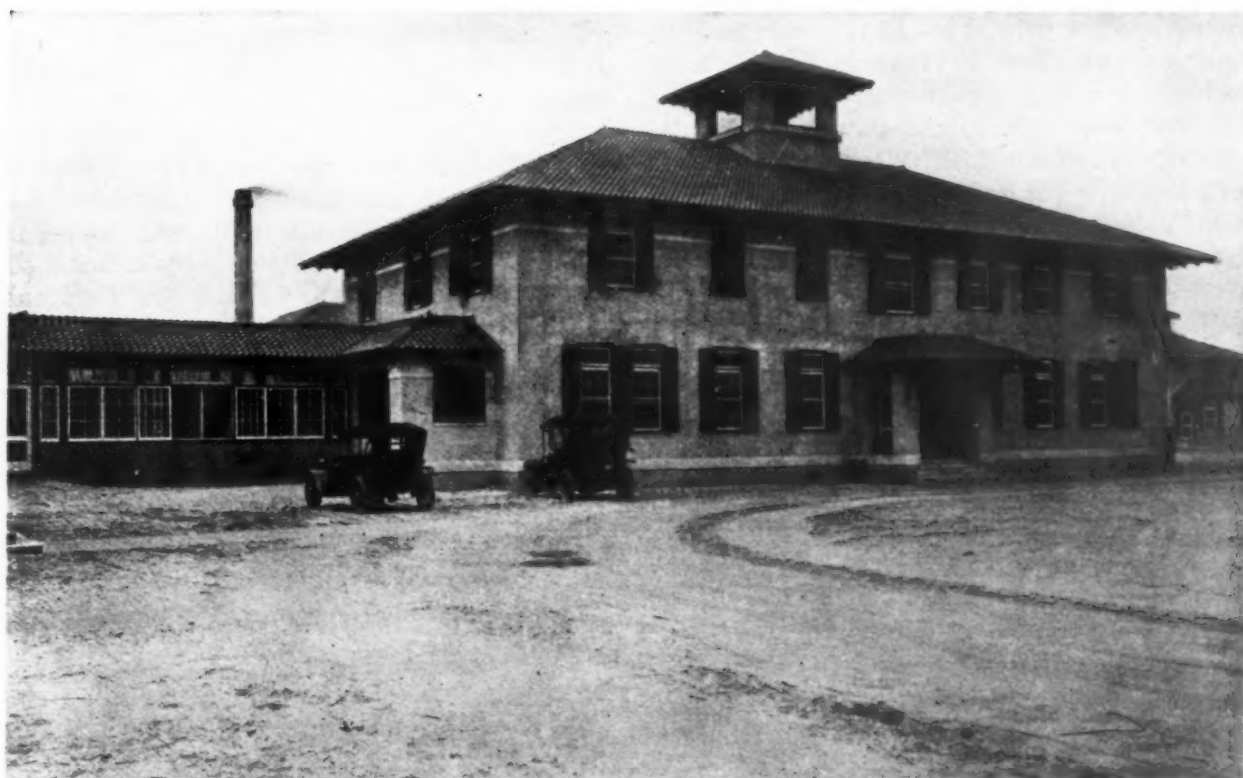
WITH nearly two blocks of ground as a building site and the southern climate as a factor in the case, it was deemed best to adopt the pavilion plan for St. Luke's Hospital, Jacksonville, Fla. The buildings were designed after a careful study of the modern German institutions, most of which were built with pavilions, and many of the ideas in them were incorporated into this group.

The site is well away from the city, yet quickly reached by trolley or motor. There is a boulevard on one side of the property, a park on another, and a small stream running through a third. These conditions enable the hospital to control its light, air, and sunshine permanently.

Jacksonville has had a phenomenal growth, hav-

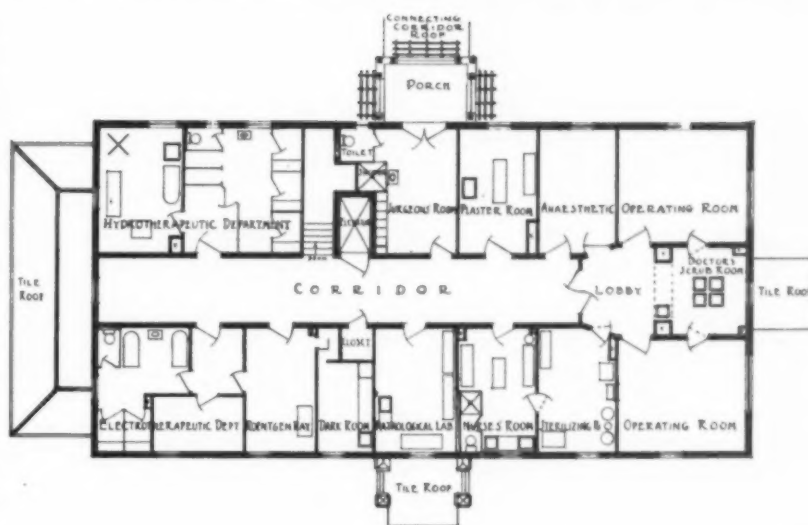
ing doubled its population in ten years. It is still growing rapidly, and this fact was considered in planning for the new hospital. The administration portion has been built complete, and made of sufficient size to care for a number of additional pavilions for patients. At the same time endeavor was made not to have it too unwieldy for present uses.

There are at present eight buildings, only four of which house patients. By reference to the plot plan it will be seen that there is space for four to six more buildings, all readily accessible to the present administration and service. The buildings just finished accommodate 110 patients, and 300 will be taken care of eventually.



In designing the exterior no attempt was made to produce an imposing architectural effect. The money was spent on the inside, for the comfort of the patients and the convenience of the workers. There is a pleasing effect, however, afforded by the group of buildings with their gray stucco walls, red tile roofs, dark-green blinds, and deep balconies, set against a background of trees hung with moss and in contrast to a foreground of glaring shell roadway.

The group plan shows the general layout. The administration building



stands at the end of a street, and is approached by a semi-circular walk and drive; behind it are the service building and power house. To the right is the nurses' residence, quite detached, and back of that the two isolation pavilions. To the left is the private pavilion (for paying patients) and the public pavilion (for non-paying). The service drive comes in at the back. The ambulance entrance is at the right of the administration building.

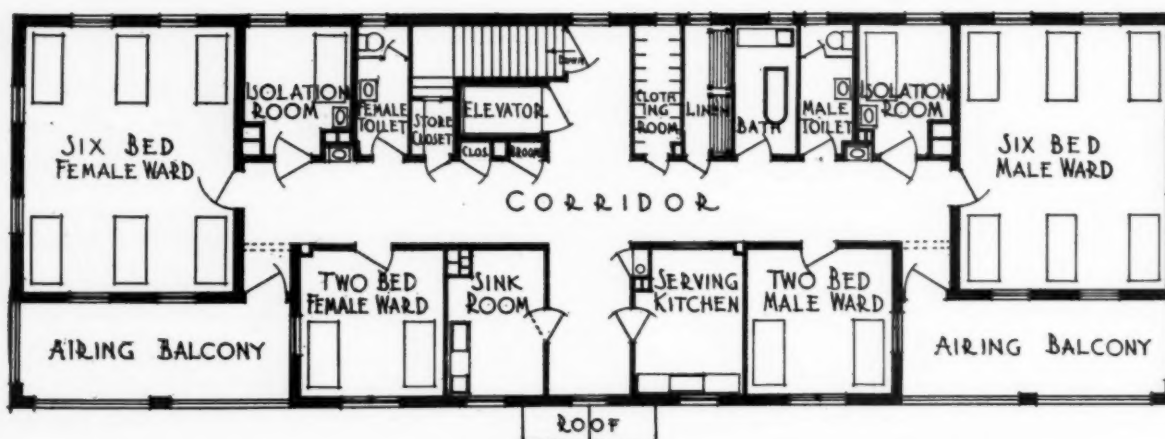
The administration building is the highest of the group, the nurses'

St. Luke's Hospital—Administration building and typical floor plans.

residence and the private pavilion, which flank it, appearing much lower by reason of their long, straight lines. Corridors run from this to the service buildings and to the pavilions. Future pavilions will connect with an extension of this latter corridor. The ambulance entrance is out of sight of patients, as is also the entrance for the morgue at the back of the building. Every patient and visitor must pass the office before going into the hospital proper.

In the sterilizing room is a water still, with heating and cooling tanks. Between this and the operating room is a window, in front of which the instrument sterilizer is set, so that the nurse may open it with a pedal and reach into it from the operating room, a saving of time and steps.

The private pavilion has 28 single rooms, four double rooms, and two 3-bed wards, accommodating 42 patients in all. There are four suites with baths, the bath being entered either from the



St. Luke's Hospital—Public and private pavilions, showing connecting corridors; typical floor plan of public pavilion.

On the first floor are the offices, general waiting room, board room, pharmacy, accident and admitting rooms, and the superintendent's and interns' quarters. At the south end of the second floor are the medical treatment rooms and the roentgen ray department and laboratory. At the north end are two operating rooms, scrub-up alcove, sterilizing room, nurses' work room, anesthetic room, surgeons' room with its own balcony, and plaster room for the large orthopedic work which the hospital does.

hall or from the room on each side, making a very flexible unit.

At the end of the lower floor of this building is a broad balcony extending its full width, the actual floor space being 12x40 feet. On the upper floor is an outdoor ward or roof garden 40 feet square, screened in, roofed over, equipped with lights, nurses' calls, couches, hammock, steamer chairs, low tables, etc., so that it may be used for either daytime lounging or continuous open-air treatment. This outdoor ward is one of the fea-

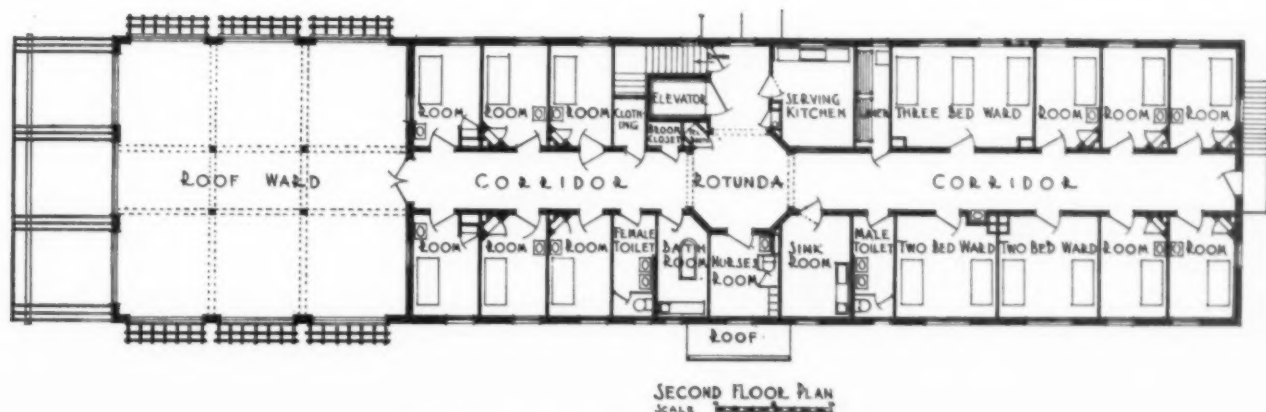
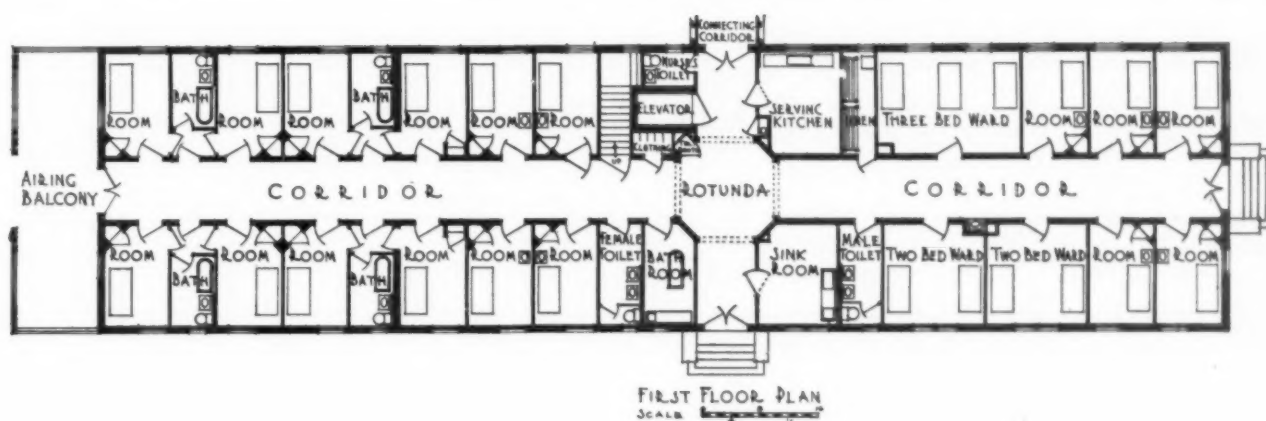
tures of the hospital which most impresses patients and their friends. The standard set for both this and the public pavilion was that there should be space enough on the balconies to accommodate at one time all the patients in the hospital, at least half being out in their beds. To this end, also, all doors are wide enough to admit a bed and all beds have large, easy-rolling wheels.

In planning buildings to be occupied by patients, all utilities have been placed in the center.

so that nurses may work toward the ends, saving time and steps. This also leaves the pleasant corner rooms available for patients, and keeps odors and noises away from the sick.

The nurses' station is at the center of the corridor, where the connecting corridor enters, and overlooks the stairway, elevator, serving kitchen, and sink room. A head nurse sitting here may observe the whole building almost at a glance.

Good-sized sink rooms and serving kitchens



St. Luke's Hospital—Private pavilion and floor plans.

have been provided, since these two places are the center of the nurses' chief activities, and must afford working space for several people at one time. There are separate toilets for men, women, and nurses' and ample bath room, a sink with large drain board and shelves above for taking care of patients' flowers, a large linen room, an extra closet for blankets, another for clothing, a telephone booth, and a locker and dressing room for special nurses.

The stairway is shut off by doors at top and bottom, so that noises may not travel from one floor to the other.

There are no call bells, the "silent signal" system being used instead. All private rooms have telephone connection.

Two isolation rooms are provided on each floor, to be used for delirious or otherwise disturbing patients. The walls of these rooms are sound-proof, there are double doors, with a removable grille at the window. These rooms and the public pavilion are of fireproof construction, being of tile and concrete. The floors of corridors and utility rooms are of terrazzo, those in the patients' rooms being of linoleum cemented to the concrete. The floor is sunk slightly below the edge of the coved base, so that the floor and linoleum finish flush.

There are no door or window casings, the frames themselves constituting the finish, which is flush with the plastering. The coved base is also flush with the plastering, being set before this work is done. These features reduce cleaning to a minimum. All corridors are 8 feet wide.

Each room has a closet, built only as wide as its door, so that there are no front corners to catch dirt. The door is cut short, and a vent is provided at the top of the closet, affording circulation of air through the contents. The shelf is set an inch away from the wall. These details give a closet very easy to keep clean.

The doors, which make up the bulk of the visible woodwork, are of birch, stained a soft gray. The wood furniture matches them.

There is a vacuum cleaning machine in the basement of each building, away from patients' rooms. Outlets for the attachment of the cleaning hose are provided on each floor.

The public pavilion consists of four units exactly similar, each consisting of a 6-bed ward, a 2-bed ward, an isolation room, and an airing balcony. In one unit the isolation room is used for surgical dressings. The upper floor will be for men, and the lower for women and children.

The utilities are placed in the center of the building, and are almost exact duplicates of those in the private pavilion. There is in addition a locker room for patients' clothing.

In equipping these two pavilions, attempt was

made to provide all labor-saving devices which were practical. Closed-in, heated food cars convey the food from kitchen to serving rooms, where steam tables keep it hot till served. Local incinerators, purposely small, are built in each sink room, so that all garbage and waste may be promptly destroyed. The refrigerators for food have one-piece porcelain linings. There is a box for crushed ice in each sink room, the large crusher being in the service building. There are utensil sterilizers on each floor, gas plates for boiling instruments, etc.

The service building has in its basement store rooms for all sorts of supplies, and toilets and locker rooms for servants. It also contains the refrigerating plant, which cools the large kitchen refrigerators and provides ice for all the building.

On the first floor is the steward's office, next the unloading platform, where all supplies are delivered, one person being responsible for receiving, checking, storing, and giving out. This office controls the entrance to the basement, kitchen, laundry, dining rooms, etc.

The three-compartment refrigerator is immediately off the entrance for supplies and next the main kitchen. The steward's office has a large window opening into the kitchen, through which store room supplies may be delivered, orders given, and general supervision had.

The main kitchen occupies one corner of the building, and has a monitor above for additional light and air. Supplies enter at the right, are cooked in the center, and are served from the left or corridor end, giving no cross currents in the work. The fuel used is gas. The cooking apparatus is set in the center of the room. The equipment includes vegetable steamers, jacket kettles, fixed and tilting, electric vegetable peeler, meat-chopping machine, bread and meat slicers, etc. The kitchen steam table and urns do double duty, caring for articles waiting for patients' food cars, and serving the staff and nurses' and servants' dining rooms.

Across the corridor is the special diet kitchen, equipped with large cabinet range, table with steam bath, refrigerator, supply cupboards, etc. Near it is the so-called pastry room, where all desserts, hot breads, etc., are prepared. This room has its own refrigerator, gas oven, and jacket kettle.

The food cars come in at the broad entrance of the kitchen, are loaded with the ordinary items of food from the steam table, get desserts from the pastry room, stop at the diet kitchen for special articles, and are complete before they leave the building, without retracing their steps.

The nurses' dining room, sunny and airy, occupies one end of the building, and the staff dining

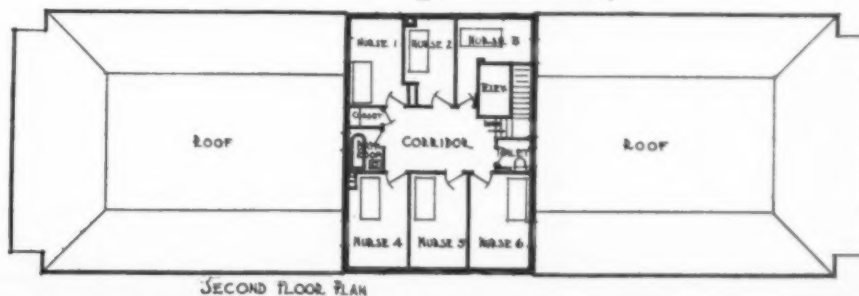
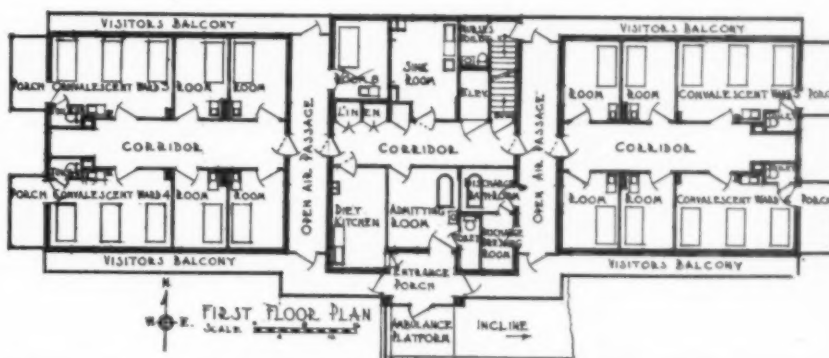
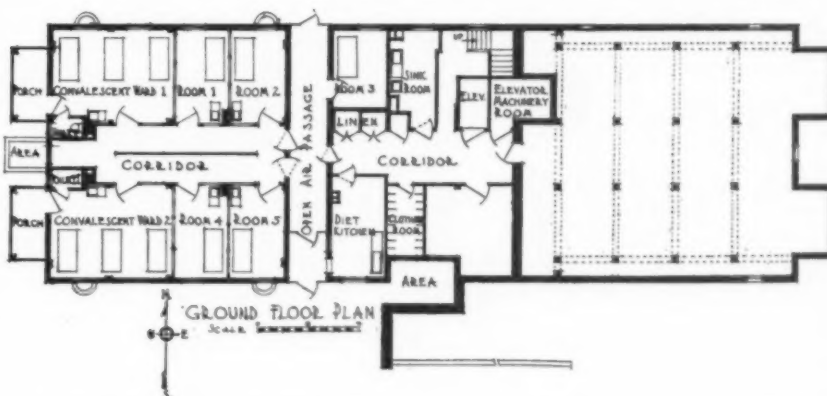


room is next. These two have their own entrance, and are served from one serving room, where there are dish cupboards and a dishwashing machine.

On the upper floor are two sets of rooms for men and women servants, each with bath and separate staircase. Provision is made for only a few, as in Jacksonville most of the servants are accustomed to go home at night.

The power house is designed to provide steam for heating, cooking, sterilizing, etc., for all present and future buildings. Space has been reserved for additional boilers when the final pavilions are added to the group. The machinery room has space for an electric generator if it becomes desirable for the hospital to put in its own plant.

The laundry is on the first floor of the power house building, its only entrance being across the bridge from the service building. Soiled and clean linen, and workers and visitors must go through the office, putting the whole situation into the control of the person who is there.



St. Luke's Hospital—Isolation building and floor plans.

The laundry work is done in one large room, the washing being at the right and the ironing at the left. The machines are so arranged that the current of work is continuous and that there are no cross currents. The sorting boxes and delivery counter open into the office. The equipment consists of a wood cylinder washer, a sterilizing washer, an extractor, a two-truck dry room, a high-speed, five-roll flatwork ironer, a body ironer, and four electric hand irons.

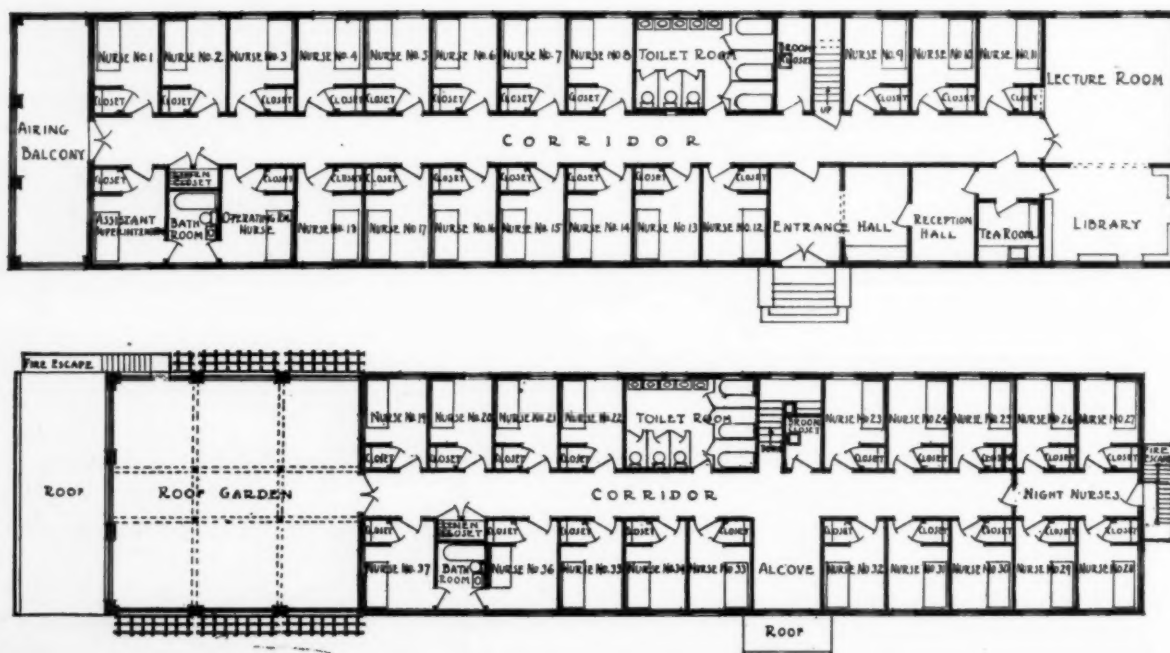
At the northeast corner of the building is a separate entrance for the linen from the contagious pavilions. The sterilizing washer sets into the partition of this room, and has a door at the back which opens into it, so that all goods may be put directly into the washer by the one who brings them, and need not be handled by anyone in the laundry until after they have been boiled.

A large cylindrical sterilizer, with a door at each end, is set into another portion of the partition between the laundry and the infected linen room. Infected clothing, shoes, pillows, or mat-

resses are brought into the infected room and put into the sterilizer from that side, being afterward taken out on the laundry or clean side. The infected room has a sink, so that the person who brings things into it may scrub his hands before he leaves. The valves for steam, etc., are on the clean side of the partition. The apparatus is arranged for formaldehyde and ammonia, as well as steam.

The nurses' residence provides for forty nurses in single rooms. The rooms are purposely made small, being but 8x12 feet in size, so that they can never be used for more than one person. Each has a good-sized closet, a single bed, a large dresser, an easy chair, and a combination desk and bookcase fastened to the wall. There is a toilet and a bath tub to every six nurses, and a lavatory to every four. There are linen and broom closets, and a wash tray and electric iron for light laundry work. There is also a vacuum cleaning machine.

On each floor there is one suite of two bedrooms



St. Luke's Hospital—Nurses' home and floor plans.

and a bath. These are for the supervising nurse, dietitian, night superintendent, etc.

There are two reception rooms, a tea room or kitchenette, with gas stove, sink, refrigerator, and cupboard; a lecture room furnished with chairs with a writing arm, blackboard, etc., and a library with built-in bookcases, reading table, and comfortable chairs. The floors of this part of the building are polished for dancing.

On the second floor is an alcove, which makes an extra sitting room or a sewing room. At the end of the second floor is a roof garden, under cover, the exact counterpart of the one at the private pavilion. It affords an ideal place for sleeping out or for daytime rest, and is furnished with cots, tea tables, and a swing.

The isolation pavilions are the most interesting features of the group. One is for white and one for colored patients. The plan is an adaptation of that of the Pasteur Institute of Paris, and avoids all the cumbersome and elaborate arrangements

of the old school. All classes of contagious cases, with the exception of smallpox, are treated in one building, the acute cases being in single rooms and the convalescents in small wards. The rooms are cubicles, with glass partitions for ease of observation, each cubicle being complete in itself. Each case is treated as a separate entity. The success of the plan depends largely on correct technic, the so-called "aseptic nursing."

The Pasteur technic assumes that all persons and things which enter the patient's room are clean and all which go out are infected. It holds that there is no such thing as air-borne infection, and that practically all transmission of communicable disease is by contact with the patient, his secretions, or his utensils. The nurse wears a gown while handling the patient, leaving it inside the room. She also scrubs her hands before leaving the room. Utensils which have been used in the room must be deposited only in a sterilizer. Waste must go into the incinerator. Excreta



St. Luke's Hospital—Floor plans of the service building.

must be emptied without touching anything. All the details of the technic had therefore to be provided for in the building and its equipment.

The central portion of the building is the administration part, and is assumed to be clean. It contains the admitting and discharge rooms (which are disinfected after use), the serving kitchen and sink room, and the office of the nurse in charge. An open-air cut-off separates this from the part occupied by patients.

EQUIPMENT.

Each room or ward has a scrub-up lavatory or sink, with combination faucets controlled by elbow handles. Each sink has a drain board made in one piece with it, for solution basins, hand brushes, and other appliances. There are hooks provided for hanging two gowns. The soap dispensers work with a pedal. The door handles are levers, which may be manipulated with the elbow or upper arm.

In the sink room the incinerator opens with an elbow handle and the utensil sterilizer with the foot, and the slop hopper faucets have elbow handles. In the serving kitchen the dish sterilizer opens with the foot, and is large enough to admit a tray and its dishes. This sterilizer is so arranged that the dishes which are to go back to the main kitchen may be removed from it by a person who stands on the porch outside.

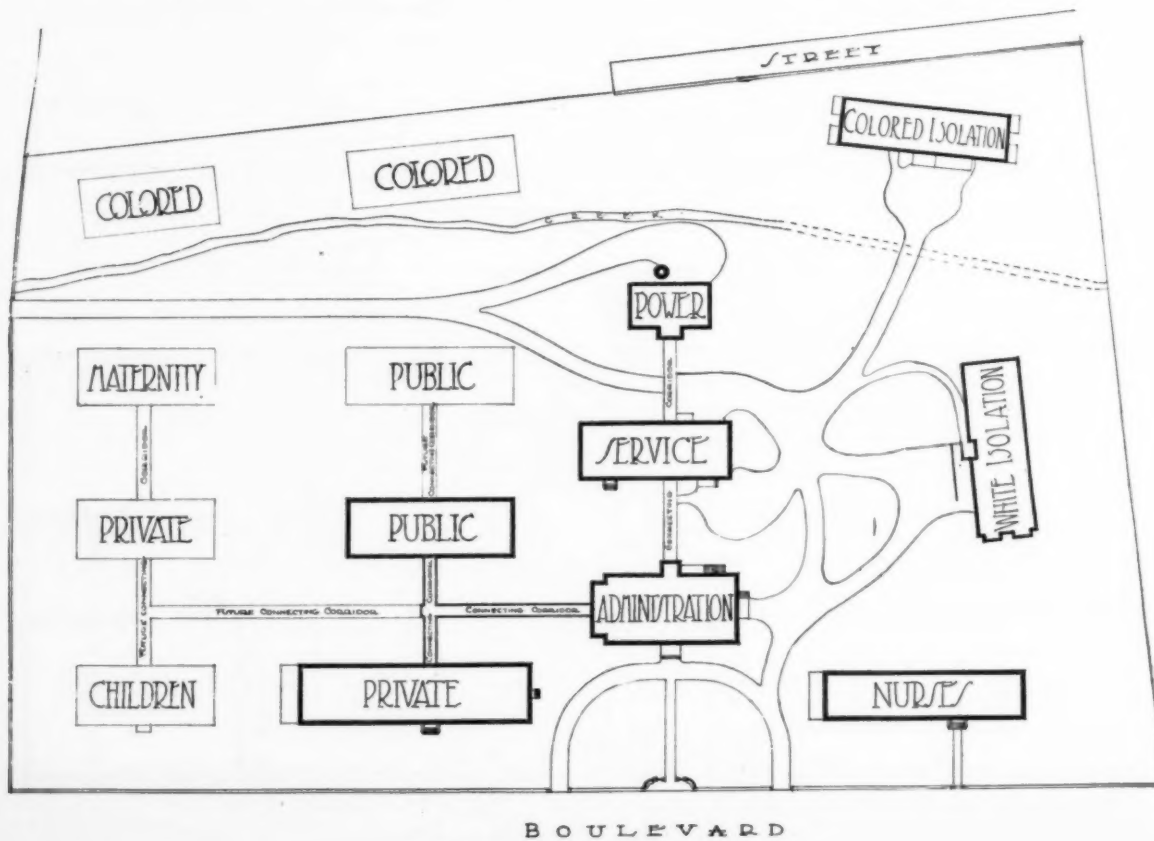
By means of these carefully worked out details

a nurse is enabled to care for a patient, dispose of all waste material, care for all utensils, accomplish the sterilization of all appliances, and finally cleanse her own hands, remove her gown, and be clean, to start on the same routine with a second patient, who may be ill with a disease of quite a different nature. The surprising part of it to people who have not tried it is that the number of cross infections is very small compared with those which occur under the old, elaborate methods.

ADMITTING.

When a patient is admitted he is undressed in the entrance room, his clothing sent to the laundry for sterilization or disinfection, and a bath given him. The tub is a deep slab of white porcelain, and the washing is done with a spray, so that the bath is practically a shower bath in bed or a shampoo in running water. Hospital clothing is then put on him and he is placed in a single room. When convalescent, he is placed in a 3-bed ward with other patients recovering from the same disease. The ward is treated as a unit, but the aseptic technic is maintained.

For bathing patients in their rooms, a portable tub is provided, similar in principle to the one in the admitting room, but made of wood covered with copper for lightness. It is set on a wheeled stretcher frame of the same height as the bed, so that the patient may be easily transferred to it, and bathed with a spray attached to the faucet at



St. Luke's Hospital—Plan of the group.

the scrub-up sink. A floor drain in each room receives the waste water from the tub. The tub is disinfected after each using.

DISCHARGE.

When the patient has recovered, he is taken through the open-air corridor to the discharge room, given a cleansing and disinfecting bath, and passed into the dressing room, where he receives his own uninfected clothing. From this room he departs without coming in contact with other persons or parts of the building.

FINISH AND DETAIL.

Hospital finish of the strictest sort has been carried out in these pavilions. Everything not absolutely necessary to the treatment is eliminated. The furniture of the room consists of a bed, a comfortable chair, and a table, besides the lavatory. The curtains are of fine brown linen, and there are no window shades. Washable rugs are provided for the rooms of convalescents.

The wards have toilets directly off them, and each has its own screened-in porch.

VISITORS' BALCONY.

Visitors are not allowed in the building, but there is a narrow balcony running in front of every room, so that parents and friends may come to the patient's window, see him, talk with him, and know how he is getting along. This provision is an important item, since it establishes the con-

fidence of the public in the hospital. If they can see the patient and note his progress, get an idea of the working of the institution, and have opportunity to observe, they are satisfied. If they are refused a sight of the patient, they immediately become suspicious of all that pertains to his care.

NURSES' ROOMS.

Though there is considered to be no adequate reason why nurses caring for contagious cases should not mingle freely with other nurses, it was deemed advisable at the present time to house them in the isolation pavilion. The second floor, therefore, provides single rooms for six nurses, with bath, etc., these rooms being fully as commodious as those at the nurses' residence. There is a separate entrance through one of the open-air corridors.

PROVISION FOR EXPANSION.

The pavilion provided for white persons has accommodation for 20 patients on the first floor and 11 on the ground floor. The first floor only is in use, the ground floor being finished, but left without equipment until it is needed.

The pavilion for colored persons has room for 11 patients. It is an exact counterpart of the administration and one wing of the white pavilion, the only difference being that this is not a fire-proof building. Another wing can be added at any time, doubling the capacity, without the necessity of adding to the administration or utilities.

FEEDING THE HOSPITAL—THE FOOD.¹

Discussion of Principles—Sources of Food—Function in the Body—Composition and Utilization—Milk and Its Products—Butter, Its Uses and Its Substitutes.

BY MISS LULU GRAVES, DIETITIAN LAKESIDE HOSPITAL, CLEVELAND.

PAPER II.

NOT only does our food play a very important part in our physical and mental efficiency, but it also furnishes one of the largest items in our expense account. Logically, this would make it one of the first considerations in our business of living. As a matter of fact, it is all too frequently one of the last, if it is given any consideration at all.

Nature has provided wisely for the human body, not only in supplying foods adapted to its various needs, but in providing facilities for utilizing the food. The extent to which we use or abuse this provision of nature has much to do with the lasting qualities of our physical mechanism.

Among those of us who are well and strong, and

wish to remain so, as well as among those who are handicapped by physical weakness, there is being shown a more wide-spread interest than formerly in both the quality and quantity of food eaten. No doubt this is partially due to the emphasis many of our leading medical men are placing on the dietetic treatment of disease. For the reason that it is only in recent years that this has been given much attention, there are comparatively few really proven facts or well-established theories on its several phases, and we find almost as many opinions as we find advocates of scientific dietaries. But on one phase all are agreed—that more attention should be given to the nourishment and care of our bodies, keeping them fit all of the time, rather than relying on drugs or other means of furnishing temporary stimulation.

So much is being written on the subject of food,

¹This is the second of a series of eight papers on "Feeding the Hospital." Last month, "Introduction;" next month, "Tea, Coffee, Cocoa, and other Beverages."

food materials, and diets that one need have no difficulty in acquiring information. The bulletins issued by the United States Government at Washington, by the state experiment stations, and by the agricultural colleges are authentic, and may usually be obtained for the asking. The terminology may, however, be confusing to one not familiar with the usage of the different publications, as it is not uniform. The terms most frequently in use are food, food material, and food constituents.

A generally accepted definition of food is anything which, when taken into the body, is capable of building or repairing tissue, or of furnishing material from which heat and energy may be produced. Food material—or, as it is sometimes called, foodstuff—is that from which food may be made; a food principle or food constituent is the nutritive element in foodstuff. For example, bread is a food; flour is one of the food materials used in bread making; starch, a form of carbohydrate, and gluten, a form of protein, are food principles contained in flour.

All foods contain carbon, hydrogen, and oxygen; proteins contain, in addition to these, nitrogen, this being their distinction from other food principles. Thus we have the classification nitrogenous and nonnitrogenous foods; the nonnitrogenous includes the carbohydrates and fats.

Carbohydrates are the sugars and starches, and, as the name implies, are made up of carbon and water, the hydrogen and oxygen being in the same proportion as water—2 atoms of hydrogen to one of oxygen (H_2O). Carbohydrate, with the exception of lactose and glycogen, is obtained chiefly from vegetables and fruits. Starch, the most complex form, is found in all green plants, and is manufactured by chlorophyll and sunlight from the carbon dioxide in the air and water in the soil. The starch grain is inclosed in a cell wall (cellulose), often hard, as in rice and other cereals. When in this form it should be cooked long enough and at high enough temperature to soften the intercellular tissue and reach the starch grain inclosed, making it soluble and more easily digested. Starch is not soluble in cold water, but is made soluble by the application of heat, either dry or moist. The action of dry heat on starch produces dextrin. Familiar examples of this are found in toasting of bread, browning flour for gravies, etc. Many of our cereals are practically dextrinized, and on this ground the manufacturers claim for them that they are more easily digested than others.

But the body cannot use the starch even in this soluble form; it must be changed to dextrose before being available—in fact, all forms of carbo-

hydrate must be changed to some form of dextrose before being absorbed by the body. There are many intermediate steps to this process, which begins in the mouth, with the action of the ptyalin producing the first change, and is ended in the intestines, where it is reduced to its simplest form. Dextrose is found in a natural form in fruit and plant juices, honey, raisins, and sweet corn in comparatively large amounts, and in small amounts in many other vegetables. It is one-half as sweet as sucrose, or cane sugar, and is known technically as invert sugar. It may also be produced by the action of acid on cane sugar. In the body this is done by some of the digestive juices; in cooking a familiar illustration is given in the addition of lemon juice or cream of tartar to cane sugar when making icing, fondants, etc., to prevent crystallization.

While dextrose is more easily digested and more quickly assimilated, it ferments readily and surfeits quickly. When absorbed by the body, the final products of carbohydrate furnish heat and energy, the waste being eliminated in the form of carbon dioxide and water through the breath, perspiration, and urine. Cellulose is not, strictly speaking a carbohydrate, yet it is found so abundantly in the fibers, skin, etc., of vegetables and fruits that it may be mentioned here. It has practically no nutritive value, but is an important aid to digestion, as it furnishes the necessary "bulk" for stimulating the motions of the digestive tract, and prevents constipation.

Fat is also a carbonaceous food, but the carbon, hydrogen, and oxygen are in a different proportion from that of carbohydrate. Fat has more carbon and hydrogen and less oxygen, and therefore oxidation must take place in the body. Oxidation is a heat-producing process, so that fat gives off more heat during digestion than carbohydrate—approximately two and one-quarter times as much—but it is stated by some of our physicians that the fuel heat of the carbohydrate is necessary for the burning up of the fat. These two may be substituted and interchanged in the body as they are in diabetes, but it is not wise to do so under normal conditions.

Fat particles may coat the food and prevent the action of the digestive juices upon it, or they may coat the lining of the digestive tract and prevent the ready flow of the secretions. Fat is digested in the intestines, and the completeness with which it is absorbed is in proportion to the temperature at which it separates into fatty acids and glycerine—i. e., the "cracking point." The higher this temperature, the greater the percentage of absorption. Olive oil has a high cracking point; butter, a low. From the standpoint of digestion,

olive oil is a much more desirable form of fat for cooking purposes than butter, but its expense bars it from common use. There are, however, on the market many forms of fat that answer the purpose equally well, especially for deep fat frying and sauteing, the food value and digestibility being much the same, the chief difference being in the flavor. These are vegetable oils, and cottonseed oil is the principal ingredient in all of them. When not heated to the temperature at which this change takes place, butter is a most easily digested form of fat.

Lack of proper amount of fat in the diet leads to constipation, and may retard the function of the liver. As it has been stated by one man, "the phagocytes of the blood need fat as ammunition for killing germs," and people who eat a sufficient amount of fat need never fear tuberculosis. That is why codliver oil and olive oil are often prescribed for consumptives.

As mentioned above, the nitrogenous foods are those which contain nitrogen in addition to the other elements, and include proteins and albuminoids. The common sources of animal protein are milk, eggs, and meat; of vegetable protein, legumes and cereals. Animal protein foods are concentrated and quite thoroughly digested. Meat has an agreeable flavor; milk and eggs have a mild flavor, which makes it not only possible to use them for a long time without palling on the appetite, but they may be successfully combined with other food materials. These foods contain mineral salts, which are valuable in addition to the protein. On the other hand, vegetable foods from which we get protein are bulky, as before mentioned; this bulk is desirable for the process of digestion; they give variety to the diet and are a much less expensive form of protein food material. It is in these legumes and cereals that we find the substance called vitamins, which have the power to stimulate metabolism and seem to be necessary for growth, though their composition is not yet known. Purins are present in these forms of vegetable food, and they, too, play an important part in metabolism.

It is not our purpose, however, to discuss the numerous proteins found in food materials, their chemical dissimilarities, nor their function in the body, except in a general way and in connection with the food in which they are found.

In cooking, proteins are coagulated by heat and toughened by a high temperature. For this reason meat, eggs, and milk should be cooked at a temperature below boiling point. Then, too, experiments have shown that some of the vitamins are destroyed at a temperature of 60°-70°C. and nearly all at a temperature of 110°-120° C.

Proteins are acted upon by pepsin (casein in milk by rennin) in the gastric juice, being changed to peptones and proteose. The pancreatic and intestinal juices change most of them still further, and they are absorbed by the body in the form of amino acids. Their function is to build tissue chiefly, though they furnish some heat and energy; the waste is eliminated in the form of urea.

The carbohydrates, fats, and proteins are the food principles obtained from organic food materials—those that must be oxidized and chemically changed before being utilized by the body. We have present in our foods other food principles known as inorganic, which are taken into the body in a highly oxidized form and are assimilated without further change. These are mineral salts and water. They do not liberate heat, nor do they build tissue, but they are essential for maintaining body development.

The mineral salts found in the ordinary diet are sufficient for ordinary use. If any are lacking, it is most apt to be iron and calcium; in a vegetable diet sodium chlorid (common salt) may be lacking, as vegetables contain little salt in soluble form as compared with animal food. The majority of our vegetables contain large amounts of potassium salts, which in the blood react with the sodium chlorid, forming sodium sulphate and potassium chlorid ($\text{KSO}_4 + \text{NaCl} \rightarrow \text{NaSO}_4 + \text{KCl}$). As these are both removed by the kidneys, there is a natural craving for more in the food. Often sodium chlorid is added for flavor only. Sodium and potassium help in the construction of blood cells and muscles, sodium chlorid dissolves the globulin in the blood and controls the flow of water to and from the tissues by osmosis. Calcium helps the growth of bone and teeth. Milk, eggs, and cereals are rich in calcium; this is one reason why they are good foods for children. Spinach and asparagus have a high percentage of calcium.

Ferrous salts (iron) are necessary for the production of hemoglobin. The amount of ferrous salts present in vegetables depends on the soil in which they are grown; the amount in animal food depends on the bleeding of the animal when killed. Green vegetables, especially spinach, are rich in iron; cereals, beef, and egg yolk are other sources. No food, however, is rich enough in iron to make good by dietetic means any marked deficiency in the blood.

Phosphorus and magnesium are other salts found in the body in large enough quantities to be mentioned. Phosphorus is furnished in the yolk of egg and in wheat. Under normal conditions the requirements of the body for mineral salts will be met by the use of a mixed diet. Wa-

ter usually contains a comparatively large percentage of salts, the mineral salts present being indicated by the hardness of the water. If these salts be in the form of carbonates, they may be precipitated by boiling and the water made soft; but if they be in the form of sulphates, it is very difficult to soften the water.

Other uses of water in the body may be to act as a cleanser inside as well as outside. If taken when the digestive tract is free from food, waste tissue, particles of food, etc., may be washed out. This is why drinking water before breakfast may be found beneficial in constipation, as it removes any accumulation of matter that might hinder the flow of the digestive juices, providing the water be taken long enough before food is eaten to allow the flushing out process to be completed before being interfered with by the solid matter.

Water maintains the fluidity of the body, and in doing so helps to regulate the temperature. So many of the processes of metabolism, as well as catabolism, are due to hydrolysis, or dehydration, that water is necessary in keeping the body well nourished, though it contains no nutritive constituents.

The average person requires from 5 to 6 pints of water daily, depending on the habits and the temperature of the atmosphere surrounding him, though not all of this is furnished by actually drinking it. Some is in combination with other food and some is produced from combustion. The food value of any material depends not alone on the percentage of food principles which it contains, important as they may be; the amount of potential energy it yields, its digestibility, and its absorbability are all determining factors. A food may yield excellent results in calories of heat and energy, and yet be of little service to the body because it is difficult of digestion. Not the food we *eat*, but the food we *assimilate*, nourishes us. The portion of food assimilated by the body may differ greatly under different conditions. The body may be able to utilize more at one time than at another; the freshness of the food, its appearance, the manner in which it is cooked all have their effect. When we come to speak of some of the food materials a little more specifically, milk is the one uppermost in our mind, as it comes most nearly being the one used first, last, and all of the time.

While milk is an essential food, it is not, as is sometimes stated, a perfect food. It is true that the young animal, both child and lower animal, is able to live on an exclusive milk diet, and its needs are quite fully met by this diet. The needs of the young, however, are not the same as those of an adult. The requirements of the young are

more for the growth of tissue and bone than for the storing of fat or producing of energy. Milk contains enough protein and mineral salts to meet these requirements, but lacks sufficient carbohydrate to produce the heat and energy required by the adult.

One quart of milk contains about the same amount of nutriment as 12 ounces of beef or 6 ounces of bread. Though these contain approximately equivalent amounts of nutriment, the nutritive value is not the same for an adult, as there is a higher percentage of material which may be assimilated in the bread than in the milk. It is a better "balanced" food.

Milk contains all of the food principles—carbohydrates in the form of lactose, fat in the form of cream, protein in the form of casein and albumin, mineral salts, and water. It is easily and completely absorbed, but, as there is no bulk remaining, a prolonged use of milk may lead to constipation or dyspepsia. Because it is deficient in iron, one using milk constantly may become anemic. Bread and milk make a very good food, as bread supplies the lacking constituents.

The composition of milk varies with the different breeds of cows and in different cows of the same breed. Jerseys and Alderneys produce rich, yellow milk, the cream rises rapidly and very completely, almost all separates from the milk, leaving it thin and blue-looking; in the milk from Holsteins and Durhams the cream rises slowly and not at all completely, leaving a richer milk. Cream contains all the food principles, though in very small amounts, except fat. The particles of fat in cream are very finely divided, making it easy of digestion. Cream does not produce as much energy as butter, and it is a proportionately more expensive food. The use of cream as an accessory to so many of our present-day dishes is due to a habit, or a cultivated taste for rich things, rather than to a logical combination of materials.

Skimmed milk contains the nitrogenous food principles, mineral salts, and sugar, lacking the fat in proportion to the method of separating. The value of skimmed milk is not generally appreciated. It may well be used in cooking where fat is not needed or is furnished in some other form. The souring of milk does not affect its food value; one step of digestion has been taken in the splitting up of the lactose into dextrose and galactose. Sour milk is produced by lactic acid-forming bacteria; when this acid is formed, the casein, which is insoluble in an acid medium, is precipitated. This continues until such a percentage of acid is formed that the *bacillus acidilactici* will no longer act—in other words, when

this degree of acidity is reached, the milk will not become any more sour. Other organisms may be present and produce other changes, though the acid medium has a tendency to check the growth of other microorganisms. When casein is precipitated by acid in the form of a curd, the change is a physical one, and the properties are the same as they were in the sweet milk. If an alkali be added, the curd will be redissolved. Sodium bicarbonate (common baking soda) is most often used for this in cooking. But if the casein is precipitated by rennin, a chemical change takes place, and the properties are not the same; caseinogen is formed and it cannot be redissolved by an alkali. Rennin is the milk-coagulating enzyme of the stomach. Rennin taken from the stomach of a calf furnishes the commercial rennet or junket tablets on the market. When rennin acts upon the casein, a clot is formed, which shrinks and squeezes out the whey, and forms a mass the density of which depends on the amount of casein and mineral salts present and the acidity of the gastric juice. The normal, healthy digestive apparatus is equal to the task of handling this mass, but there are some that have difficulty with it. This difficulty may be overcome by adding to the milk lime water, barley water, or even plain water to dilute the milk and lower the percentage of casein. Cracker or bread crumbs will separate the particles of casein and lessen the formation of the clot. Sipping the milk slowly will help, too. Souring of milk is a natural occurrence, and will always take place within a few days after being drawn from the cow, the length of time depending on the cleanliness of the milk and the temperature at which it is kept. Preventing this action by means of preservatives is no longer prevalent to any great extent, nor is the adulteration of milk with water, since so much has been done by individuals and communities to improve the quality of milk sold.

If formalin is added to the milk to preserve it, there may not be, as has been claimed, enough present to do any great harm to the person drinking the milk, but we infer that a dealer who must resort to this means is producing milk that is not clean or is contaminated in some respect. The formalin destroys the lactic acid-forming bacteria, but does not inhibit the action of some others. If these are in the milk, they have a clear field in which to develop, as no acid medium will be formed for some time, and may produce a very harmful product. Milk is a most excellent medium for the growth of microorganisms, as it furnishes the required food and moisture, proper temperature being the other requirement for their activity. For this reason milk should always be

kept at a low temperature; it should not be exposed in a room, particularly if there are many people moving about in the room, as is likely to be the case in kitchens of institutions; nor should it be left uncovered where other food materials are being kept. Milk will keep longer without souring if it is pasteurized. Pasteurization of milk is submitting it to a temperature of 140° to 160° F. for a period of about twenty minutes, the temperature used varying with different dairies. This destroys many of the bacteria, including the lactic acid-forming, but not all. When we are in doubt or ignorant of the source of our milk supply and the methods used in handling it, pasteurizing may not give us the product for which we wish, but it at least is safer than the same milk would be in a raw state and somewhat more satisfactory. If, however, it is not properly cared for after pasteurization, it may be worse than if left raw, as the later growth of disease-producing microorganisms has not been checked.

Sterilization, submitting milk to a temperature of 212° F., kills practically all bacteria, and milk keeps longer, provided there is no further contamination. This high temperature destroys the emulsion of fat, part of the calcium salts are made insoluble, so that the action of the rennet is interfered with, the taste is altered, and the casein less easily digested. Milk is being produced by some dairymen which they certify has been produced under the best possible conditions. This means that the cows are healthy and clean, the barns sanitary, the milkers and all utensils coming in contact with the milk kept free from contamination. Some of our certified milk farms are models of cleanliness and care, and the milk contains comparatively few bacteria, but the milk is higher priced, and for this reason is not used except in special cases, or by the well-to-do. For infants, or others with very weak digestion, milk may be peptonized. Peptone tablets are made from an extract of pancreas containing pancreatic ferment, which acts upon the casein of the milk, making it soluble. This may be done by either the cold or warm process, but for mouth feeding should not be allowed to continue long enough to become bitter. When the proper degree of peptonizing has been reached, the milk should be put on ice to prevent any further action.

"Eiweiss milch" is found to be very beneficial for children who are anemic or have intestinal disturbances. This is obtained by precipitating the curd from milk by heating to a temperature of about 100° F. and adding chymogen powder in the proportion of 2 tablespoonfuls to a quart of water. Allow it to stand fifteen or twenty minutes, or use less chymogen and allow it to stand

longer, keeping the temperature at about 100° F. until the casein is coagulated. Then drain for about an hour in a sterile muslin bag. To the curd of 1 quart of milk add 1 pint of buttermilk. Press through a fine sieve two or three times, beat vigorously. As it is hard to get the curd fine enough to stay in suspension, care must be taken in warming the milk for use. This gives a milk rich in protein and fat, but poor in sugar.

Koumiss is another preparation from milk that is valuable in fevers or generally impaired digestion. The original koumiss was made from mare's milk, using the milk from mares that ran wild on the steppes of Russia. In this country cow's milk is used, and fermentation is by kephir grains; both lactic acid and vinous fermentation take place and the product is readily digested. It is expensive, but it has a large amount of nutritive constituent rendered easy of absorption.

Lactose—milk sugar—the carbohydrate of milk, is a particularly good food for infants and invalids because it is easily digested, though the exact physiological effect is not clearly understood. It is not so sweet as cane sugar and consequently does not pall on the appetite so quickly. It is readily acted upon by microorganisms, splitting up into lactic acids. This action in the intestines may produce diarrhea or infantile summer troubles. Lactose is used in the making of homeopathic pills.

The chief products of milk are cheese and butter. Cheese consists essentially of the casein and fat of milk, though the coagulated curd entangles in its meshes small portions of albumen, lactose, and mineral salts. The nature of the cheese depends on the richness of the milk, kind of milk, and amount of pressure used in manufacturing. If pure whole milk is used and clotted with rennet, almost all the food value of the milk is transferred to the cheese. This is the case in making Cheddar cheese; or, as in the making of Stilton, the proportion of fat is made greater by adding cream; or, in other cases, the cream is removed and a low percent of fat is left. This is sometimes done in making cottage cheese. The flavor depends on the species of bacteria used during the ripening process; each species produces chemical changes which give characteristic flavors. The ripening process continues for weeks, and in some cases for months, the flavor slowly growing stronger all of the time. The soft cheeses, Camembert, Stilton, cream, Neufchatel, etc., should be consumed soon after manufacture. Neufchatel and cream are similar to cottage cheese, and may be eaten after one day of ripening. Cream cheese has more fat than the other two, but none of them is subject to the curing process. Camem-

bert is a French cheese. An experienced French cheesemaker was secured at the Storrs' experiment station in Connecticut, and it is said the cheese being made there is very much the same as the French product in quality and appearance, and is made more scientifically and under more rigid control. This cheese ripens in about thirty days, is kept in a cool place, and a mold develops during curing, which changes the color to a grayish green and makes the cheese soft and creamy.

Edam is the most famous of the Holland cheeses. It is made from a pure culture of slimy bacteria. In Holland it is marketed in about a month, but when we get it in this country it may be several months old. Roquefort is made from goat's milk and ripened by a green mold, has a strongly marked flavor, and is very expensive. Parmesan and its variations, Gruyere and Gorgonzola, are also made from goat's milk. These are the so-called fancy cheeses, and the high price is paid for flavor rather than food value. This is true of many of our foods, but is far more likely to be the case in buying cheese. American cheese contains more nutriment than Parmesan and is half the price. Stilton is about the same food value as American, but twice as expensive. Cheese eaten for flavor is an expensive food, but, if eaten for food value and proper varieties bought, it is a decidedly inexpensive form of protein, and well-ripened cheese is not hard to digest for the average healthy, normal digestion. Because of the large amount of fat, it may cause trouble for delicate digestive organs, unless it is very finely divided. This may be done by grating, by thoroughly chewing, or by mixing with milk and eggs. Another reason for disagreeable effects in the stomach is that fatty acids are formed in small amounts during the process of ripening, and these may prove irritating. The nutritive value of cheese is very high, and it is helpful in digestion; it has an action similar to that of an enzyme. This is why it is used at the end of a heavy meal, and gives rise to this familiar quotation, "Cheese, thou mighty elf, digesting all things but thyself." It is said that "Americans taste cheese, Europeans eat it."

[This paper to be continued in the November issue.]

Early in the summer the people of Rome, Ga., planned a home-coming holiday week to welcome a visit from Mrs. Wilson, wife of the president, to the home of her girlhood. Now that the original purpose of the holidays has been rendered impossible of being carried out, it is proposed to devote the occasion to the raising of funds for the erection of a new city hospital as a monument to Mrs. Wilson and to be named in her honor. The hospital project was launched some time ago and seemed assured of success, but it is thought that the injection of the idea of making the hospital a monument to Mrs. Wilson will give the movement a new impetus, and make it possible to establish an institution that will meet the needs of the city for a longer period.

HOSPITAL COST ACCOUNTING.¹**Vast Difference Between Hospital Needs and Necessities of Commercial Organizations—Simplicity Coupled With Exact Knowledge the Keynote—Some Forms of Organization That Lend Themselves to Proper Bookkeeping.**

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THE task of preparing a paper which shall do justice to so serious a topic as hospital cost accounting, and in a way which will make it at once instructive and interesting to a convention, is an extremely difficult one, for, in spite of its fundamental importance and indispensable character, the subject is as dry as the proverbial "bone" to the minds of most persons who have not been brought by circumstance or chance into close relationship with the processes of the accounting department of a commercial business or of an active institution.

The intelligent and progressive hospital superintendent, charged with the responsibility of maintaining an institution at the point of highest efficiency and lowest commensurate cost, attends a gathering of this nature not alone for the purpose of hearing the views and experiences of men from the "other side of the hills," that he may profit and add to his store of knowledge, but for diversion and recreation, glad enough to leave behind the routine of office duties and the contemplation of comparative figures concerning the costs of maintenance. He desires to forget for a season that he ever heard of brain-fagging and exasperating statistics which show the hospital to be not self-supporting, and which call constantly for an increased revenue and greater economies in operation.

To attempt analytic or technical treatment of the subject would mean failure for the paper as a convention attraction, while too general handling would deprive the discussion of its value in supplying food for thought and material for direct application to refinement of system. It is this possibility of failure to meet the varied requirements and demands of convention delegates that militates against a technical presentment, which might be of real value to those who read and follow up the reports as printed in the year book of the association.

It follows, therefore, that the successful solution of the question as to the way to please and interest lies in respectfully dragging this "accounting mummy" from its ancient wrappings and diplomatically adorning it in modern common-sense clothing, wherein at least its appearance may attract attention and favorable comment. Its habiliment should reflect a happy medium be-

tween the "hobble skirt" of elaborate and congested operating formulas, which hamper free action and stultify efficiency, and the "hoop skirt" of easy-going indifference to those accepted standards which insure adequate and economic control.

From the writer's outlook, based on twenty years of actual, active participation in hospital management, and a similar period of professional experience in institutional accounting, the establishment of a hospital in any community should be on business principles and its conduct on business lines, with one object constantly in view for all of its accounting and statistical processes—namely, that of simplicity. The use of this word does not imply a condition of crudity or incompleteness in system, but rather a freedom from those elaborate plans for distribution of operating expenses to departments and activities which, while quite essential in a manufacturing business, are costly and of no practical value to the management of a hospital; simplicity in the form of records and reports; simplicity in the daily workout and application of accruing data; and simplicity in methods of collating and segregating results.

Unfortunately for the best interests of the hospital community, there has been for some time past a tendency to inject into the otherwise simple problem of hospital cost accounting a serum of so-called "modern efficiency," supposed to be an antidote for existing ills, but in reality a propaganda of impractical theories, good-looking enough on paper, but in real use a source of expense without resulting benefit.

A hospital has no more need for a diffuse distribution of its costs on a railroad or manufacturing basis than has a typhoid patient for broiled lobster, the difference being that, while the system is slow torture, the lobster is sudden death. They both destroy in the end.

Perhaps you are not familiar with the case of the hospital which employed a "system expert." One year after the installation of the plan the superintendent met the expert on the street, and in reply to his question, "How's the system working?" replied, "It's working perfectly; shows results each day, just as you promised." "Is the hospital busy?" queried the expert. "Oh," replied the superintendent, "we closed the doors three months ago in order to keep up the system."

The business of the hospital is not a competitive one, and hence the refinement of its cost system

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beyond the point of complete operating control and for compulsory statistics is quite unnecessary. Your hospital must meet the requirements of the community it serves through the medium of the best equipment and the highest grade of surgical, medical, and nursing service known to modern science, and it must acquire this equipment and secure this service, no matter what it costs for installation and operation, or go out of business.

Food supplies must be purchased, and the diets prescribed by physicians for patients must be furnished without more regard to the cost than to buy at the lowest prices demanded for commodities of standard grade. Medical and surgical supplies of absolute purity and guaranteed quality must be purchased and dispensed alike to pay patients paying high prices for private treatment and to free patients calling at the dispensary.

Thoroughly modern equipment must be provided for the operating room, the pathological laboratory, the dispensary, the private rooms, and the wards. The sterilizing, cooking, lighting, heating, and laundry apparatus must be complete and of the best makes, and the ambulance vehicles must be of the automobile type to secure promptness in reaching the point of call from the sick or injured.

The operating staff, from the superintendent down, must be experienced and efficient, and the salaries paid for such efficiency are not lower proportionately than in mercantile establishments. Board and lodging must be supplied for practically the entire staff, and the plant must be kept going each day in all departments, during all seasons and through dull as well as busy periods, in order that it may be in readiness for emergencies which are likely to occur at any hour of the day or night.

Your staff of nurses, interns, and household help cannot be reduced or discharged to suit the conditions of health in the community, nor can your overhead costs for repairs, supervision, and record keeping be molded to meet the conditions of periods of activity or dullness; and last, but not least, in the state of New York, in common with other states where governmental supervision is strict and exacting, all these various functions and activities must be kept at the highest point of efficiency, or your institution falls below the first-class rating accorded only to the fully equipped and well-maintained hospital.

The contention has been made that good business management of the hospital can make it entirely or more nearly self-supporting through revenues derived from its own internal activities by charging to persons treated the cost of such treatment in supplies and service.

This claim can be substantiated in communities

where cases of poverty and want are infrequent or unknown, and where patrons of the hospital can afford to pay for the help received. The condition may also be attained where the rentals from private rooms and wards and the fees charged for special service are sufficiently in excess of the actual cost to pay the losses accruing from the care of free patients, but in crowded sections, where there exist a large number of poor and needy persons who must be cared for with little or no return, it becomes a physical impossibility to operate the hospital without a deficit in operating income.

In a commercial enterprise exact costs are necessary in order that articles produced may not be offered for sale at prices below cost, and, when the cost is found to exceed the obtainable market price, the production can be abandoned as unprofitable. In order to determine the full cost of production of any article, certain well defined rules must be followed to ascertain the quantity and cost of materials used, the labor expended in processing these materials, and the share of overhead and executive expenses applicable thereto. The careful following of these costs, changing them to meet altered conditions, dropping out old and introducing new factors as they appear, and always keeping up to date, is quite essential to profit making, and where losses occur the executive uses the comparative cost data to locate the source of the loss.

This process is of the utmost value where its use is the basis of continuance or cessation in production, but it is of very little value where the business in hand must continue in spite of proven and continuous deficits. Such is the case in the business of an institution for ministering to the needs of the sick and suffering, and where, instead of closing the doors, the management must find means for raising the revenue to carry on the work.

The business of a public hospital should never be commercialized to the extent of eliminating the feeling and atmosphere of charity pervading the use of its dispensary and wards. Its service to the community at large and its grip on the sympathies of charitably inclined persons are generally the measures of its success, and the setting aside of the features of charity and sympathy as of secondary importance eliminates public interest and makes the process of accumulating an endowment fund very tedious, if not impossible. The hospital is in a bad position when the public believes it to be no longer in need of help.

For purposes of comparison and control, it is very necessary, for instance, to follow the cost of drugs and medicines purchased from month to

month, and in a large institution, where a stores department is possible, the consumption of these articles each month as dispensed to the departments, but it is expensive and unproductive in any institution to attempt to follow exactly the monthly cost of drugs and medicines consumed as between the pathological department, the outpatient department, the operating rooms, the private patients, and the various free wards.

For the same reasons the cost of food stuffs must be followed on a purchase or consumption basis from month to month, but only in the very largest institutions, such as the German hospitals of 1,000 to 2,000 beds, does it become of any benefit to distribute this cost between the hospital staff, the nursing staff, the household staff, the pay patients, the free patients, and the general help.

Where the hospital is equipped with separate kitchens for the private patients and for the ward patients and staff, the matter of following the food costs is somewhat simplified, but even under such conditions the degree of accuracy required implies a mass of detail costly to accumulate, and still more costly to reduce to concrete comparative form, following a plan of analysis for the guidance of the executive.

It may be interesting to know the actual cost of sterilizing, washing, and ironing the garments and flat pieces passing through the hospital laundry from day to day as between the various departments, but experience will show that the clerical expense of following this cost is entirely disproportionate to the value of results. You may obtain the costs of the laundry by metering the consumption of water and of electric power, and you may aggregate the wages of the foreman and help, the cost of soap and chemicals used, the cost of repairs to buildings and equipment, and the overhead charges applicable to this department. You may distribute these costs to the departments in proportion to the number of pieces processed for each department, but the knowledge thus obtained is dearly paid for in the salaries of clerks, and the only good purpose served lies in disclosures as to loss of stock through carelessness or defective handling of machinery.

The distribution of steam and electric power from a central plant for purposes of heating, lighting, cooking, and sterilizing may all be measured or estimated at the point of intake in the various departments, and the cost divided on the basis of units of horse power and kilowatt hours, but the expense of installation of the measuring apparatus and its maintenance, to say nothing of the defective reports obtained, render the process both costly and unsatisfactory.

The process of cost finding in a hospital organization should be carried only to the point of providing the executive with comparative data which will assist him in controlling the operations of departments, but no farther. Figured costs, which can at best serve only as evidence of what has been done during any period, should never be regarded as a substitute for that physical attention to orderly and labor-saving performance which makes it possible to check waste and extravagance.

No system of cost finding will prevent the wholesale waste of food stuffs which will take place in every institution kitchen where supervision by the steward or housekeeper is lax or ineffective. The comparative cost figures may show an abnormal increase in the total cost of foods or in the per diem per capita cost, but effective economies in operation are neither dependent on or the result of a cost system, but rather the natural outcome of the exercise of that property of common "horse sense" in administration which looks after the leaks and compels observance of the rules of discipline and thrift. The cost system can be made an effective guide, but is in no sense a stop-loss insurance.

To make the accounting records of the hospital a true reflection of the daily operations, and to parallel the statistics of patients treated with the costs of such treatment, the costs should be compiled on a consumption, instead of a cash, basis. This method implies the maintenance of a stores department, to which all supplies shall be charged and from which all supplies consumed in the departments shall be dispensed on requisition to such departments, the costs of such deliveries being aggregated and charged each month in connection with direct charges for salaries, wages, and expense. The consumption of coal at cost would be an added factor, as would be the proper prorates for such fixed charges as taxes, insurance, interest, and depreciation on buildings, equipment, and machinery.

Many hospitals, and practically all those receiving moneys from municipalities for treatment of public patients, are compelled to report their accounts at regular intervals to city or state authorities on a straight cash basis, thereby making it obligatory to conduct the hospital records also on a cash basis, although such conduct does not lead to a true presentation of costs when set up for comparison beside the statistics of the number of patients' days of treatment during any fixed period. The per diem per capita costs, when figured on the cash receipt and expenditure basis, are not the true costs for the period covered by the vital statistics.

How long it may be before our city and state authorities will recognize these facts, and amend their requirements, is problematical, but, so long as the hospitals must meet these requirements, their books must coincide therewith in form and principle, the expense of maintaining two plans of administration being too expensive and voluminous to be considered. It is, therefore, advisable and practically necessary that all hospitals should continue to keep their books on a cash basis in order that statistical reports, condensing the operations of all such institutions, should not be compiled on false premises.

As the ultimate purpose of cost finding in a hospital organization is to determine the per capita per diem cost of treating private patients, ward patients, and dispensary patients, and as all preliminary and successive steps in the process of allocating costs are purely contributory to this end, it follows that the scheme of distribution should provide for segregating to these main objects all direct charges for materials, salaries, and expense, and for prorating to them their proportion of all general overhead charges which are not classifiable at the time of occurrence.

Such a scheme includes, of course, the general classifications necessary for full control of distinct departments and activities, such as the ambulance, the training school for nurses, the pathological laboratory, the x-ray apparatus, the engine and boiler room, and the electric plant.

It is not the purpose of this paper to enter into a minute discussion of the accounts to be maintained or of the charges and credits to be applied thereto, but to treat the subject informally through the medium of a chart, with sufficient explanation to bring out clearly the relationship of the accounts and their application in the work-out of the final per capita cost.

With this end in view, a modern chart layout has been prepared and circulated showing the distribution by departments and the process of drawing the figures of these departments together under the final triple heading of private patients, ward patients, and dispensary or out-patients.

A successful accounting system is one designed to meet the peculiar requirements of the business under consideration, such requirements being dependent on certain operating conditions and the scope of the undertaking. No general system can be safely forced on an organization regardless of these special features of environment and magnitude, and no system can be made to fit any business when the rules of economy and real efficiency are disregarded. For these reasons the system outlined below may not meet the special requirements of any one state or municipality as to statistical

data required for periodic reports, but the skeleton may be taken as a general foundation on which to build the superstructure best suited to the peculiar need of each case. Most of the accounts listed in the following chart (Chart No. 1) are set up solely for purposes of monthly comparison, by the use of which full control may be had over the various lines of expense.

The classified charge headings are indicated by the numbers 1, 2, and 3. The departments are indicated by the letters "A" to "M," inclusive. The final charge accounts are indicated by letters "X," "Y," and "Z."

Corporation expenses, being a class of expense incurred entirely in caring for the capital assets (other than the hospital proper) and obligations of the institution, are not included or calculated in the per capita cost of caring for patients.

The *direct charges* are grouped as follows: Exclusive salaries and wages; actual supplies consumed; actual expenses incurred.

The *indirect or prorated charges* are grouped as follows: General salaries and wages; general supplies consumed; general department expense.

The *administrative expenses* are grouped as follows: Salaries of officers and clerks; general expense incurred.

The pay roll should show the following distribution, kept distinct largely for purposes of monthly and annual comparison: Dispensary, emergency ward, visiting and house nursing—out-patient department; administrative officers and clerks; training school superintendent, assistants, and instructors; nurses and attendants; orderlies and ward employees; drug department or apothecary; pathological laboratory; ambulance; x-ray operator; departments as per chart, "H" to "M," inclusive.

The supply and expense accounts should include the following, also kept largely for comparative purposes:

Administrative Expenses: General office expense; stationery and printing; telephone and telegraph; miscellaneous.

Out-Patient Department: Supplies and expenses for dispensary, emergency ward, visiting and house nursing.

Training School: Supplies and expense for stationery and printing, books, uniforms, tuition fees.

Medical and Surgical Supplies: Apparatus and instruments; medical and surgical supplies; alcohol, liquors, etc.; x-ray supplies; ambulance supplies; pathological laboratory supplies.

Departments "H" to "M," inclusive: Supplies and expense.

General House and Property Supplies: Fuel,

oil, and waste; heat and power; electric power and light; gas; ice; insurance; maintenance of real estate and buildings; maintenance of machinery and tools; plumbing and steamfitting.

The *Steward's Department* may be subdivided for control as follows: Bread stuffs; milk and cream; groceries; butter, eggs, and cheese; fruits and vegetables; meats, poultry, and fish.

All specific items for salaries, wages, supplies, and expense which can be at once allocated to de-

ings and equipment used solely for the private patients of the institution.

All other items of operating expense which form an integral part of the cost of the various branches of service should be aggregated and finally spread over the departments on the basis of the pay roll, or other logical method, as may be determined by the superintendent.

The final segregation of general costs prorated to the three fundamental activities of the hospital

HOSPITAL ACCOUNTING CHART, SHOWING PLAN OF DISTRIBUTION.

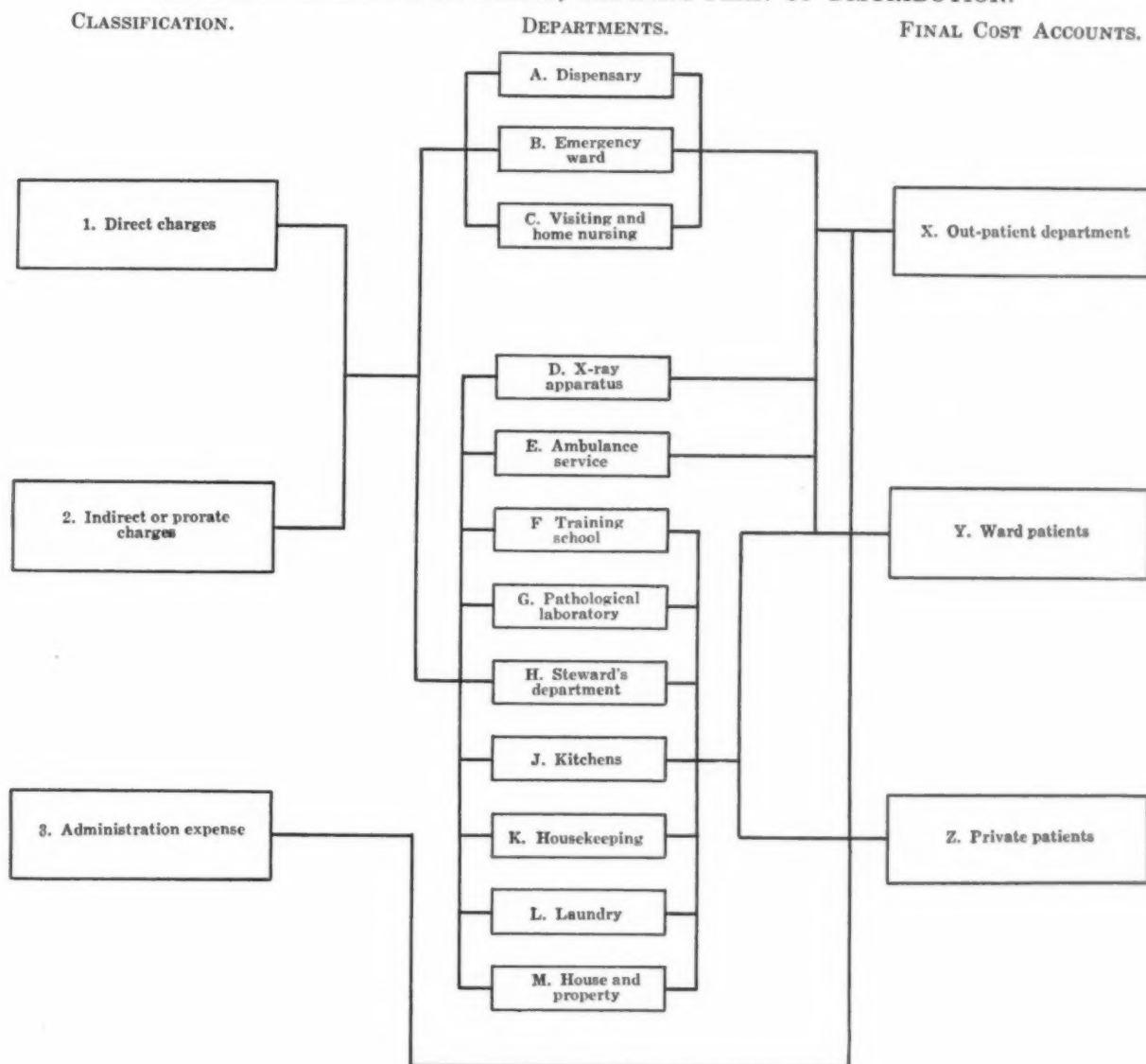


Chart 1.

partments should be charged direct and cleared on the record.

All charges which can be readily segregated to the cost of maintenance of private patients should be so carried as to make it possible to transfer the accounts representing such charges direct to the final "cost of private patients" at the end of the fiscal period. Such charges would be for wages, supplies, and expense incurred specifically for the sustenance of patients or for the upkeep of build-

ings should be accomplished on the basis of the number of days of treatment provided in each class.

THE ACCOUNTS PAYABLE REGISTER.

The problem of distributing the charges to the accounts listed above is best solved by the use of a modern "accounts payable register," which sets up, under department accounts and subheads directly from the approved invoices of purchases and expense, the complete analysis desired, the

entries being made as soon as possible after approval by the superintendent.

The method of entry on this register provides a ledger "control" on all items entered, the "control" being captioned as "accounts payable." The sheet also includes a cross-footing feature for proof on each page, and short folding leaves are utilized to permit of condensed distribution.

All costs, except pay roll items, should be put through the register, including petty cash payments, which should be spread from duly prepared vouchers, drawn at date of settlement with the petty cashier for such payments, thus making the record a complete analysis of all costs except the salaries and wages paid.

To avoid ledger postings of the monthly totals of these various register columns, the totals may be carried to a single set of distributive sheets of exactly similar form, and the aggregate of these monthly totals will give, progressively, the final totals for any period desired. The register also provides space for "invoice numbers" and a column for the *number of checks* issued in payment of the invoices listed, the object being to save space and clerical labor on the cash book by eliminating the duplicate writing of the name of the payee and the amount of each invoice. The detail is already on the register, waiting only for the check numbers to complete, and the total of invoices on the register must equal the total of the checks drawn for any month.

THE SUPERINTENDENT'S CASH BOOK.

The cash book, which works in harmony with the register, should be of the modern columned type, combining the function of both check book and cash book, and providing for the proper recording of revenue received from various sources and for the charges to the control account and the pay roll.

From the standpoint of safety and convenience in handling the questions of the receipt of current revenues and the payment of maintenance charges in the hospital, it has been demonstrated that all revenues arising from the operations of the hospital should be collected by the superintendent and by him banked to the credit of the treasurer of the managing board. The superintendent should be supplied with an "impress fund" sufficient in size to meet the current daily needs of the hospital, and to be replenished from time to time by check of the treasurer on the presentation of an approved voucher.

The major payments made each month, and which are the subject of entry and distribution on the accounts payable register, should be paid in exact total amount by the treasurer's check to the superintendent, who in turn pays the individual

bills and clears his record of all cash but the "impress fund."

This treatment reduces the matter of the handling of cash to its simplest terms, and, when safeguarded in the various channels of its receipt and payment by approved accounting devices, becomes a simple and adequate solution of the otherwise troublesome question of protection against loss.

FILES FOR INVOICES.

The modern vertical file for all paid invoices, filed in folders under alphabetic distribution by dealers' names, with the last invoice always in front, is the accepted form of record keeping for close touch with such invoices for all purposes of reference for the present and future. Invoices should never be allowed to leave the files after approval and entry in the register, except for specific reference, in which case a suitable form of ticket should be inserted in the file to mark the absence and date of withdrawal.

SUPPLY STOCK.

The accounting processes to be used in following the delivery, storage, and distribution of supplies depend almost entirely as to form and detail on the magnitude of the organization and the presence of a storekeeper capable of keeping stock records and taking proper inventories. Each organization must be guided by its own physical conditions in formulating a plan of controlling stock and issuing on requisitions or request.

In the event of the maintenance of a stock room and storekeeper, the form of stock ledger best adapted to hospital use is a loose-leaf sheet, kept by quantities only, for each commodity put in stock. The balances shown on such sheets should constitute a correct book inventory of stock on hand at all times. Under conditions of sufficient clerical assistance, a department charge ledger may be kept for entry of all supplies dispensed to departments on proper requisition blanks, the record being kept in both quantity and money cost.

The stock records also described are always of great assistance to the superintendent in distributing the "indirect costs" to the various departments "A" to "M," as shown on the chart, and in carrying the correct charges into the final cost accounts at the close of the fiscal period.

PAY ROLL TREATMENT.

The form of pay roll record best suited to the specific needs of any hospital is dependent on the physical conditions in each case, the number of employees being the usual measure as to the necessity for a numerical division of departments and the method of record and pay.

Many of our hospitals still adhere to the old

plan of taking the signatures of the employees at each pay period, but, as all lines of mercantile business have long since given up this method, recognizing that it adds nothing in security or moral force to the function of "paying off," and occupies considerable time each week or month without resulting value, it would seem quite proper to advise the discontinuance of the practice and the substitution of such modern accounting safeguards as fully protect the employer against loss.

In general terms, any hospital employing over one hundred persons on its staff would do well to divide its departments numerically, pay on the number system, and record its pay transactions on a modern loose-leaf, short-folding page pay roll.

LOCATION OF BOOKS OF ACCOUNT.

The hospital accounting department, located centrally in the administrative building, is the logical place for keeping all of the accounting records of operations and, if conditions permit, the treasurer's corporation accounts and the general ledger. Many of our hospitals still retain the practice of keeping the general books in the treasurer's office, and in a few instances the checks issued in payment of current expense bills are still drawn by the treasurer and duplicate records kept by him for the same.

There is no economy in this method of procedure, and the treasurer's control is no better than in cases where the accounts are centralized, although there is some merit in the contention when a trust company acts as fiscal agent or as assistant treasurer in holding securities, handling investments, and collecting income from sources other than the hospital proper.

Let us hope that the time is not far distant when all large institutions will recognize the advantage of adopting the new and more enlightened methods of accounting control and centralized responsibility.

REVENUE TREATMENT.

The system of accounting and control best fitted to the needs of any hospital in respect to following its revenues from operations must be arranged very largely to meet the specific conditions in each case. There is a general plan that can be molded to meet special requirements, however, and an outline of such a plan is given as a suggestion for general use.

The sources of revenue from operation may be briefly summarized as follows:

1. Rent of private rooms.
2. Rent of ward beds.
3. Fees from municipality or state.

4. Charges for x-ray photographs.

5. Prescriptions and dressings sold to out-patients.

6. Charge for ambulance service.

7. Charge for use of operating room.

8. Sundry articles sold.

9. Charges for special nurses' board.

And the usual fees charged and collected for account of special nurses, physicians, and surgeons rendering special service at uniform rates. These last two items are collected by the hospital as a matter of accommodation for nurses and doctors, yielding but little income to the hospital.

Of the above nine items the revenue from Nos. 4, 5, and 6 may with propriety be treated as a relief to the costs of these three activities, the balances, after such credits have been applied, being distributable to the three final cost accounts.

The most troublesome and perplexing questions arise in connection with the charges to ward patients and their follow-up and collection. The amount of revenue from this source depends largely on the faithfulness, diplomacy, and perseverance of the entry clerk, to whose lot falls the task of meeting prospective ward patients or their relatives and of making arrangements in each case for payment of such charges as can be borne. These charges range from a fixed per diem fee of \$1.50 to whatever the case can afford to pay, and, as every conceivable pretext is made to avoid responsibility and payment, the entry clerk must be keen in perception and firm in deciding where to demand payment in advance and how to secure prompt settlements during the term of treatment. Collections must ordinarily be made before the patient leaves the hospital, and here certainly is a case where "eternal vigilance is the price of liberty," for, once away from the shadow of the building, all sense of honor as to the debt incurred seems to forsake the rank and file of ward patients and their friends.

Full control over the activities of the entry clerk lies in the compulsory recording of full particulars regarding each case admitted, and the comparison of this data with the entries on the "admissions and discharge" register as to dates, location, terms, etc.

A loose-leaf or card ledger record for ward patients' accounts is generally considered unnecessary, but an alphabetically arranged register, with suitable columns for important details of bills rendered, is both operative and advisable, forming a complete running record of all paid and unpaid bills, and giving full control to the office accountant and proof for the auditor.

With the private patients' room rent and other charges the question of accounting is much sim-

pler and the collecting of bills much less difficult. Bills for regular rates on rooms should be rendered from one to two weeks in advance of occupancy, and charges for special nursing, use of ambulance, use of operating room, and articles provided should be billed in the week next following their occurrence.

A bill book, with carbon duplicate, and a loose-leaf ledger for private patients' accounts, are usually the best form for keeping track of paid and unpaid bills due by patients. The charges to these accounts should be kept posted from day to day, thus making it possible to render a bill at once on discharge of a patient from the hospital. The private patients' ledger accounts should be verified by the auditor from the "admission and discharge" register as to all details.

MUNICIPAL CHARGES.

The class of record to be kept and the form and scope of bills to be rendered each month to a municipality for treatment of city charges are usually prescribed by the city comptroller or the department of health obligated to pay such bills, and, as their decision is usually arbitrary and their requirements enforceable, it is of little use to attempt a uniform system for general use, which will probably not be operative.

CHARGES FOR X-RAY, AMBULANCE, AND OPERATING ROOM.

These charges, largely for private patients, should come through the general bookkeeper from the departments on suitable charge tickets, and be at once posted to the patients' accounts, and in the case of x-ray and ambulance charges the amount should be credited, when collected, to the cost accounts of these activities in reduction of said costs.

CHARGES FOR SPECIAL NURSING.

These charges should come through from the office of the superintendent of nurses, based on regular fees plus a charge of \$1 per day for board of the nurse. The items should be posted as soon as possible to the patients' accounts, and the entries should thereafter be verified by the auditor from the pay roll of special nurses' pay.

All of the revenues derived from the above-named sources Nos. 1 to 9, inclusive, should be banked to the credit of the treasurer of the corporation.

ADMINISTRATIVE CONTROL.

Complete and successful administrative control of the hospital is so very greatly assisted by accurate cost reports and dependable vital statistics, and in fact the two questions of record and

control are so intimately related in the daily work of the institution, that it is quite in order here to discuss briefly the functions and duties of the officers and their assistants, the line of authority directed by the board of trustees, the plan of distribution of the specific and general duties devolving upon the staff, and the question as to what constitutes the most economical method for securing prompt and efficient execution of the operating policy of the board.

To assist in solving the problem, there has been prepared and circulated an administrative chart (Chart No. 2), showing the lines of authority and report, and setting out the various duties to be performed by the superintendent and his assistants—namely, apothecary, chief clerk, directress of nurses, assistant to directress, housekeeper, engineer.

This chart shows the policy of management and operation emanating from the board of trustees, and its channels of direction to the superintendent—namely, the president, the treasurer's office, and the executive committee.

It shows the superintendent as supreme in his command over all departments, which are in turn operated through the direction of his assistants—the directress of nurses, the engineer, and their respective subordinates. The duties and functions of each assistant and subordinate are outlined on the chart, which may be accepted as a fair basis for the allocation of duties and obligations in any hospital, large or small.

One fact must be recognized if the scheme of organization is to be successfully maintained, and that is the need for centralization of authority and responsibility in the hands of the superintendent. There can be no division of this authority even in matters relating to the attending staff and its work, for so surely as any usurpation of power and direction is permitted to exist in any department, disorganization ensues, with the usual disastrous results. The superintendent must administer the rules and apply the penalties prescribed by the board of trustees.

Harmony among the members of the managing staff, a free exchange of views, and mutual discussions of affairs in the departments are best had through the medium of a short daily morning conference held in the office of the superintendent. Here should meet the superintendent, the directress of training school, the engineer, the apothecary, and the chief clerk, and, although the conference lasts only a few minutes, the personal touch thus accomplished proves of the greatest value in producing cooperation between departments and coordination throughout the entire operating organization.

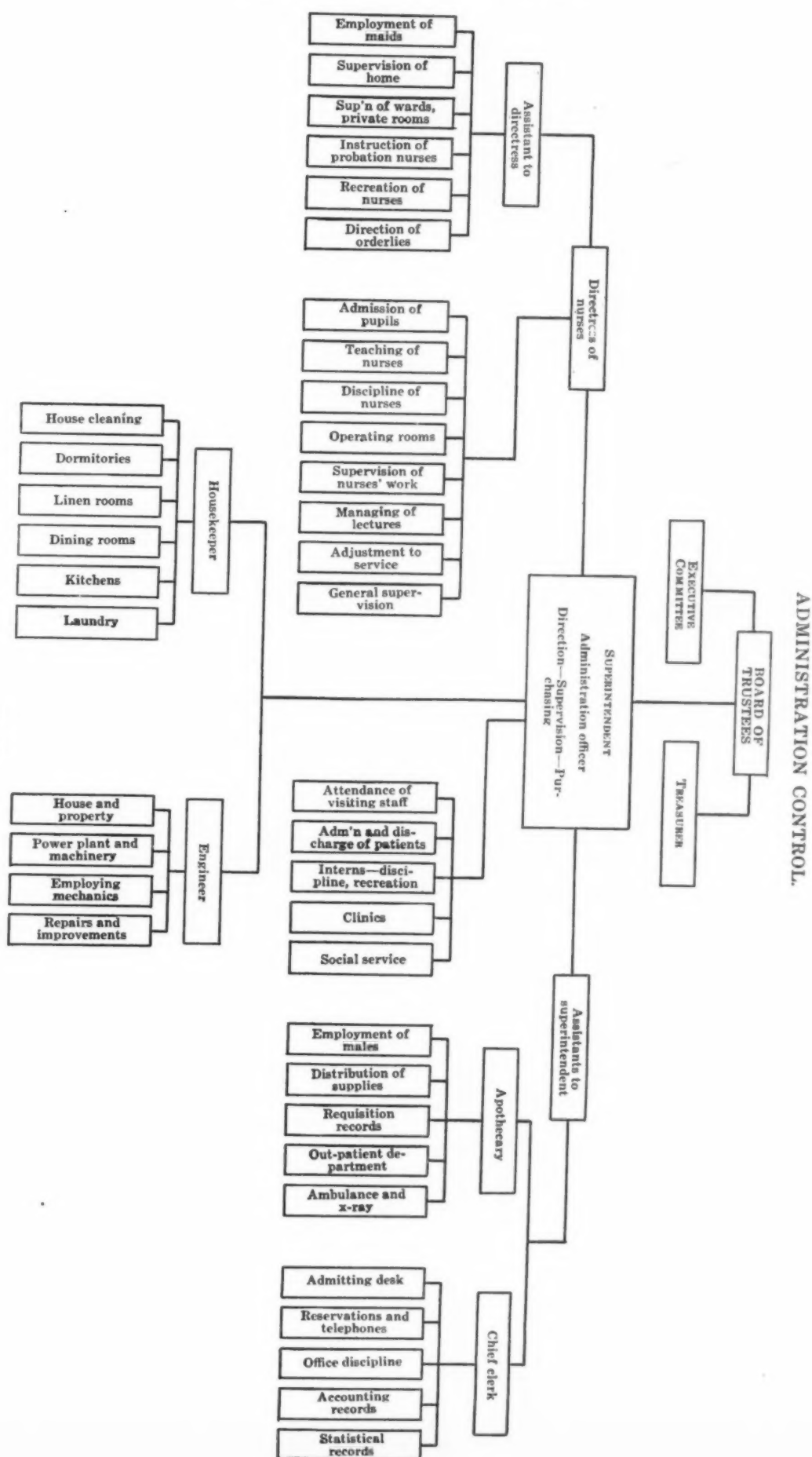


Chart 2.

The arrangement of the administrative chart is designed to lay emphasis on the fact that in many large hospitals too little use is made of the offices of the apothecary and chief clerk, and that substantial economies can be practiced by assigning to these functionaries the duties usually performed by an assistant superintendent, who, in many instances, is more of a luxury than a benefit to the institution.

Both the apothecary and the chief clerk are usually men of some capacity, and it has been found possible to divide up certain of the work performed by the assistant superintendent between these two men, with economical results financially and with many physical benefits. It is not supposed that every institution can accomplish successful supervision through these two specific assistants to the superintendent, but the writer believes that it is entirely possible to employ men of sufficient caliber to carry out the special duties assigned to them, as outlined in the chart, without interfering with their special duties, and in hospitals where neither the chief clerk nor apothecary is employed, the direction, supervision, and control is generally in the hands of the superintendent alone.

MONTHLY REPORTS.

A question of peculiar interest from the standpoint of the board of trustees of the hospital is that of the form of reports which should be laid before the board at its regular monthly meetings, and it is probable that today there are as many forms of reports in use for this purpose as there are hospitals in the land.

Each treasurer and superintendent has his own ideas as to the amount of detail and the method of grouping the figures which he considers interesting and important for the instruction of the board of trustees, but it may be taken as a general principle of procedure that the fewer the reports in number and the more concise and explicit the information contained therein, the more satisfactory they are, and it is always true that the majority of the members of the board are unable to assimilate the reading of detailed statements and do not care to spend time and thought on details.

In deciding, therefore, on reports that will be at once interesting, enlightening, and readily understandable, the accompanying forms—Form "A," comparative statement of income and expenses; Form "B," comparative statement of expenses and statistics as to patients treated; Form "C," budgetary report—have been prepared and are designed to show concisely the following facts of the current year compared with the same number of months of the previous year, and including

INCOME AND EXPENSES.			
MONTHLY REPORT TO BOARD OF TRUSTEES—COMPARATIVE STATEMENT.			
.....Months to.....1914.			
Source of revenue.	1914-1915.	1913-1914.	Increase or decrease.
Hospital operations—			
Private patients			
Ward patients			
Sale of dressings and prescriptions			
Fees for special nursing.....			
Care of city patients.....			
X-ray apparatus			
Total from operations.....			
Other sources—			
Annual subscriptions			
Donations			
Interest on investments.....			
Total resources			
Total operating expenses..			
Deficit for.....months			

Form A.

OPERATING EXPENSES.			
MONTHLY REPORT TO BOARD OF TRUSTEES—COMPARATIVE STATEMENT.			
.....Months to.....1914.			
Accounts.	1914-1915.	1913-1914.	Increase or decrease.
Pay roll			
Steward's department			
Housekeeping department			
Laundry department			
Medical and surgical supplies..			
Ambulance service			
Training school expense.....			
Fuel, light and power.....			
House and property expense...			
General office			
Total current expenses.....			
Number of days of treatment..			
Number of patients treated....			
Per capita cost for all patients			
Number of out-patients treated			

Form B.

a statement of increase or decrease between the two periods, as follows:

Revenues from Hospital Operation: Income from private patients, income from ward patients, proceeds of sale of dressing and prescriptions, charges for ambulance service, charges for x-ray service, fees for special nursing, moneys received for treatment of city patients, and showing a total of such operating revenue.

To this is added *other revenues:* Subscriptions, donations, interest on investments, etc., thus ar-

MONTHLY REPORT ON BUDGET.						
APPROPRIATIONS AND DISBURSEMENTS—YEAR ENDING.....1914.						
Budget items.	Appropriations.			Disbursements.		
	Original.	Additional.	Total.	Balance last month.	Disbursed during mo.	Present balance.
Administration						
Training school						
Pathological department						
Ambulance service						
Steward's department						
Housekeeping department						
Laundry						
Kitchen						
Medical and surgical supplies.....						
Salaries and wages.....						
Heat, light and power.....						
House and property.....						
Social service						
General office						
Totals.....						

Form C.

living at the total revenues of the hospital from income sources.

As against these totals is set up the total expense, drawn from an accompanying report, and the difference between the two items appears on the report as a deficit or surplus for the period, which may be one, two, three, four, or more months as the year progresses. In each of the above cases the increase or decrease is shown, including the net increase or decrease on the operations for the period.

This report, in connection with the comparative report of expenses for the period, as shown on Form "B," is designed to show at a glance the important features of which the board of trustees should take cognizance, and the increases and decreases shown form the basis for questions as to the cause of such fluctuations, which questions can always be answered by the superintendent, who should, by the way, attend all regular board meetings.

The above reports, in conjunction with a brief cash statement covering income and principal transactions for the month of account and a budgetary report, should constitute the file of reports to be laid before the trustees, and experience has shown that any greater detail than the above should be presented to and considered by the executive committee at its regular sessions, which should occur at least once in each calendar month.

ANNUAL EXPENSE BUDGET.

There is much to be said in favor of conducting the operating finances of a hospital, so far as the expenses are concerned, on an annual budgetary

basis, and, in order to explain the plan, Form "C" is presented, showing the method of setting up the original and additional appropriations made by the board, and of accounting for the portion of such appropriations used up during each of the calendar months of the year, together with the balances of such appropriations remaining unused at the end of each month.

The writer believes that it is good executive management, leading to the practice of many economies, that several weeks in advance of the end of the fiscal year there should be prepared a budget or forecast of departmental expenses, based on the experience of the past and the forecast of the future, and that such budget should embrace all of the lines of expense of the hospital, and be criticised and finally approved by the board of trustees, and used by the superintendent as the basis of operations for the coming year.

The plan keeps constantly before the eye of the superintendent the progress being made in the consumption of the appropriations, and he knows that he cannot expend sums in excess of the appropriations made without calling on the trustees for additional appropriations after clearly stating reasons why such additional appropriations are necessary. This direct obligation on the superintendent has a distinct tendency to check extravagance, and to compel careful scrutiny of and constant attention to the matters of consumption and waste, and the writer fully believes that no more powerful restraint than the budget can be imposed on the administrative head.

The consideration of the figures contained in

the budget is a matter of great interest to the board of trustees, and induces a careful study of hospital conditions by those in whom is reposed the trust of conducting the hospital on careful and efficient lines.

As stated at the inception of this paper, it has been the aim of the writer to cover the ground as far as possible without going into minute detail and without making the paper uninteresting to the audience.

The little pamphlet placed in your hands, including, as it does, one administrative chart, one accounting chart, two report forms, one budget form, and explanatory notes amplifying the general headings contained in the accounting chart, will supply you with some useful information, and can be taken in connection with descriptive paragraphs of accounting forms and processes which are contained in this paper, but which have been

omitted in the reading by reason of their innately uninteresting contents.

The paper, as a whole, will probably be printed in *THE MODERN HOSPITAL* and in the year book of the association, and the writer will be glad to furnish further details as to the workout of the above plans and the significance of the charts and forms submitted. You will recognize, of course, that it is impossible to include, in the brief time allotted for the reading of this paper and in the comparatively brief space allowed for publication, the discussion of the full plan of operation.

The writer hopes, however, that the contents of this paper may be of service to the hospital community, and that it may be of assistance in ultimately reaching a simple plan of uniform accounting and report for hospitals which may be of lasting benefit both financially and from the standpoint of statistical information.

NEW PSYCHOPATHIC HOSPITAL FOR CHICAGO MARKS NEW ERA.

Modern Methods of Treatment of Mental Cases Coordinated With Special Architecture— Curative Measures Substituted for Drugs and Restraint—Archaic Laws Still Brand Mental Patients With Stigma of Insanity.

By HAIM I. DAVIS, M. D., SUPERINTENDENT.

AS late as thirty years ago the insane of Cook County were inmates of the Cook County jail, where the facilities for taking care of them were naturally very meager. The first Cook County Detention Hospital was built about twenty-seven years ago, with a bed capacity of 90. Besides insane, feeble-minded children were also taken care of there. It had very little semblance to a hospital—nothing in the way of a nurse, an intern, or a record, not even a medicine chest was to be found there.

The county physician, single-handed, had to take care of all these people. The only assistance he had was male and female attendants, who excelled in the great brutality with which they handled patients. It looked as if the idea of the middle ages that an insane person was in the hands of the unholy one still prevailed. The average physician had very little knowledge or acquaintance with this branch of medicine for the simple reason that the great majority of graduates of medical schools, especially in the West, hardly ever heard a lecture on the subject, and never had opportunity for clinical observation of mentally disturbed patients.

The present superintendent of this hospital first took charge of the institution about ten years ago. He succeeded with the meager means at hand to improve the service in the direction of transforming it into something that could be called a hos-

pital. Physical and drug restraint of all kinds had been in full swing. Attendants were handing out strong solutions of bromides and other drugs in doses and at times to suit themselves. The placing of the first trained nurse in the hospital caused almost a riot; it was considered an infringement on the rights of the attendants when they were asked to accept the orders of the physician through a nurse in charge.

Although the use of hydrotherapeutic measures for the allaying of restlessness in mentally disturbed patients was known for nearly a century, it was rediscovered, so to say, a little over twenty years ago, and the Cook County Detention Hospital was one of the very first institutions in the West to be equipped for all sorts of hydrotherapeutic measures, thus giving us an opportunity to cut down the use of drugs to a minimum. Drug restraint is very often worse than physical restraint.

With the increase in population, and with the better recognition of mental diseases by the average physician, who within the last few years has been getting some training in this line, the number of admissions to the Detention Hospital has increased with great rapidity, so that from 600 patients per year admitted to the Cook County Detention Hospital about twenty years ago, the number for the fiscal year from December 1, 1912, to December 1, 1913, was 2,477.



Fig. 1. Cook County Psychopathic Hospital—Front and side view.

Always conscious that the facilities at the Detention Hospital, while greatly improved, were still very far from what was desired, and having become satisfied that the functions of such an institution must be greatly developed in many other

directions outside of the actual care and treatment of so-called insane people, the idea of a psychopathic hospital took root and was developed, and at the present time we are occupying the new hospital.



Fig. 2. Cook County Psychopathic Hospital—Outside stairs and screened porches.

Generally speaking, the functions of a psychopathic hospital are twofold:

1. The actual care of patients who have been unfortunate enough to break down mentally. A modern psychopathic hospital should be equipped to the extent of giving this class of patients the



Fig. 3. Cook County Psychopathic Hospital—Reception hall and social service department.

very best of scientific care and nursing, so as to facilitate the most rapid recovery where recovery is possible.

2. The more important function of ascertaining, by way of proper laboratory, psychological and pathological work, the underlying causes of abnormal mental states, and, once having ascertained such causes, to prevent by proper instruction of medical men and of the public the increase,

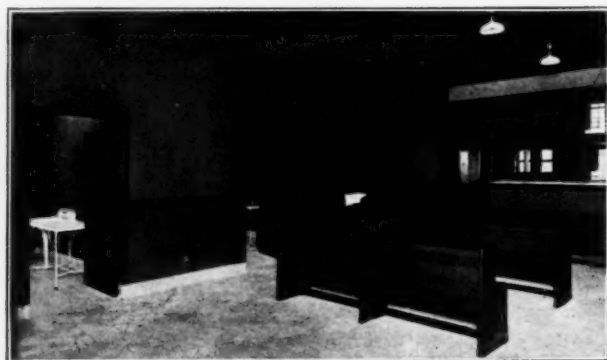


Fig. 4. Cook County Psychopathic Hospital—Out-patient department, examining rooms, and pharmacy.

and possibly even the development, of some forms of mental alienation.

This institution has properly been placed in close proximity to the large general Cook County Hospital, for the following reasons:

1. Many of the admissions to the Cook County Hospital show mental abnormalities when admitted to the hospital, or develop such abnormalities after admission; their transfer to the Psychopathic Hospital is thus facilitated. One hundred and eighty such transfers were made from December 1, 1912, to December 1, 1913.

2. It relieves us of the necessity of establishing

separate surgical and obstetrical wards, as we can easily have patients in need of such treatment temporarily transferred to the general hospital.

3. The introduction of the psychiatrist into the general hospital is filled with the greatest possibilities for medicine, says Dr. W. A. White.

4. There are continually found in every general hospital different forms of deliria, different forms of neuroses of the gastrointestinal tract, abnormal reactions accompanying puerperium and lactation, which can be best taken care of in the new Psychopathic Hospital.

At the present time there are in existence in this country the Phipps Psychopathic Hospital in Baltimore; the Boston Psychopathic Hospital; the State Psychopathic Hospital at Ann Arbor, Mich.; and the Psychopathic Ward at the Bellevue Hospital, in New York.

This new Psychopathic Hospital has a frontage of 160 feet on Wood street and 156 feet on Polk

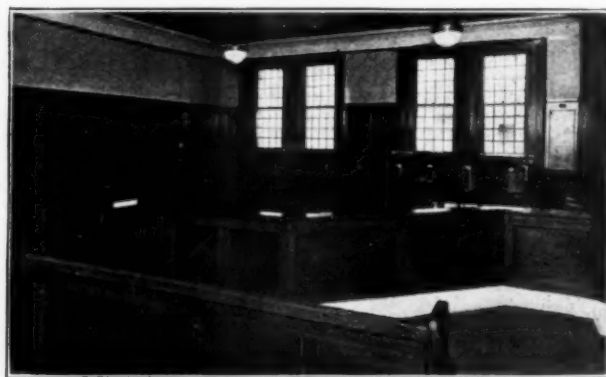


Fig. 5. Cook County Psychopathic Hospital—Court room.

street. The building is five stories in height on Wood street and four stories on the side wings. It has a bed capacity of 230. The building is reinforced concrete, tile and fireproof construction, with drawn steel door and window trim, and steel furniture. The floors of corridors, bath rooms, kitchens, and other service rooms are of artificial marble tile. The floors of all wards and offices are of imported battleship linoleum, solidly cemented to the concrete floors. The building is equipped with two passenger elevators, one of them of the push-button type. Many of the rooms are ventilated by exhaust ventilating fans, but the majority of the rooms and wards have such excellent natural ventilation that a mechanical system is unnecessary. Richard E. Schmidt, county architect, of the firm of Richard E. Schmidt, Garden & Martin, was the architect for this building.

The building, completely equipped and furnished, cost approximately \$470,000, which makes the cost per bed \$2,100, which is very low for a fireproof building throughout that contains such complete equipment for the treatment of this class of patients.

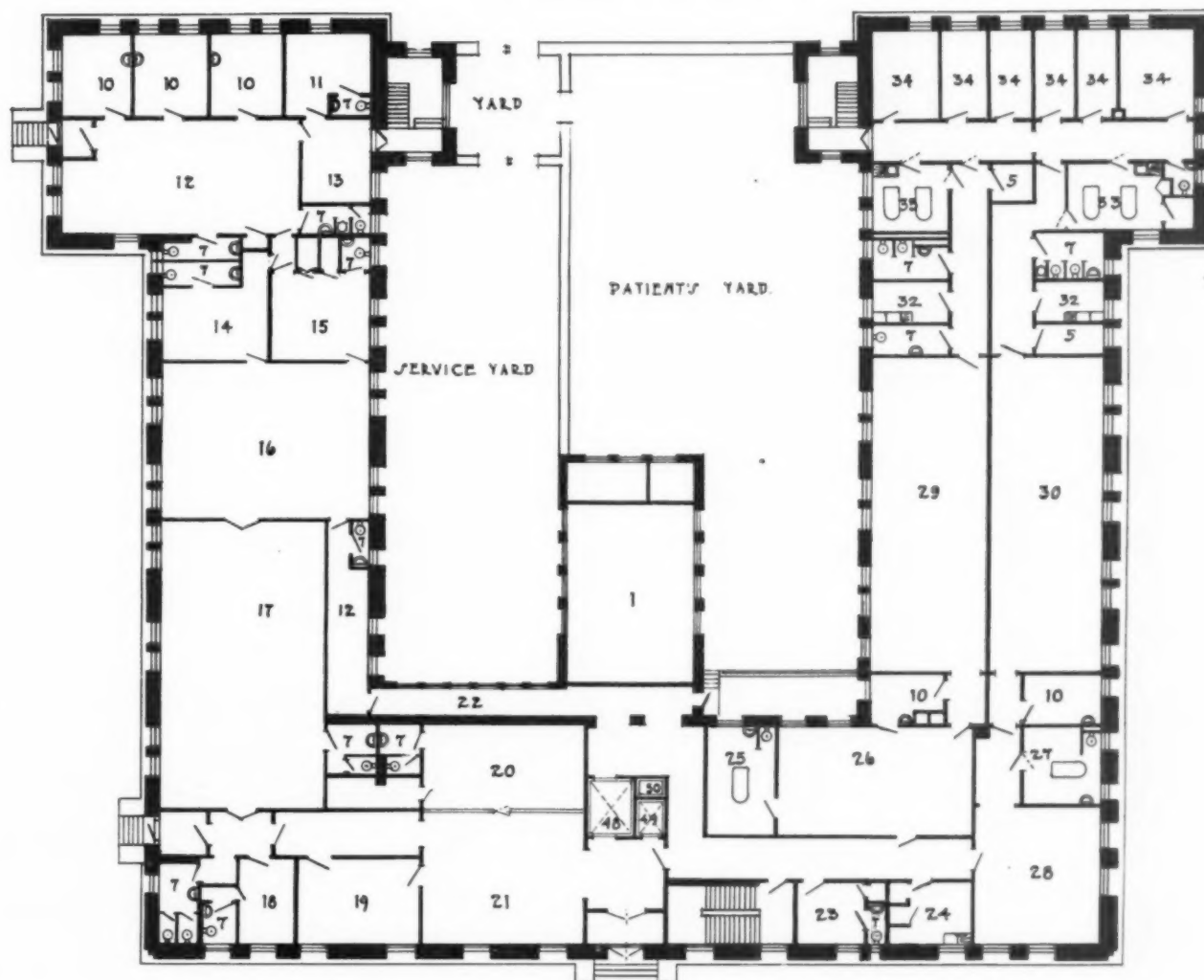


Fig. 6. Cook County Psychopathic Hospital—First floor plan.

- | | | | |
|-----------------------------|---------------------------|--------------------------------|--------------------------------|
| 1. Kitchen wing. | 15. Judges' room. | 23. Head nurse's office. | 30. Receiving ward for men. |
| 5. Linen room. | 16. Court room. | 24. Serving room. | 32. Utility room. |
| 7. Toilet. | 17. Witness room. | 25. Entry bath for women. | 33. Hydratric room. |
| 10. Examination room. | 18. Private room. | 26. Receiving nurse for women. | 34. Disturbed patients' wards. |
| 11. Doctors' coat room. | 19. Directors' room. | 27. Entry bath for men. | 48. Public elevator. |
| 12. Patients' waiting room. | 20. Social service room. | 28. Receiving nurse for men. | 49. Private elevator. |
| 13. Out-patients' room. | 21. General waiting room. | 29. Receiving ward for women. | 50. Dumb waiter. |
| 14. Jury room. | 22. Patients' corridor. | | |

The first floor contains the administration offices, rooms for social service workers and investigators, out-patient department, court room, male and female receiving wards, and head nurse's room.

Each of the north and south wings of the remaining three floors represents a unit, consisting of rooms with single beds, two beds, and three beds, and a small ward (capacity, 12 beds), nurses' service room, dining room, examining room, room for visitors, and six single rooms for disturbed patients located at the end of the wing, and separated from the rest of the unit by a corridor. The wings of the fourth floor differ in that the general wards are larger, having bed capacity of 18 beds in each ward.

The fifth floor is given to hydrotherapeutic apparatus, consisting of batteries of continuous tubs, showers, sprays, sitz baths, tables for massage and packs, electric cabinets, and rest rooms.

These rest rooms are equipped with small ice boxes for holding cooled water, milk, or other beverages that may be offered to the patients. These rest rooms are for the use of the patients who are receiving hydrotherapeutic treatment. On the fifth floor is also our laboratory, with its modern equipment, and surgical dressing rooms. The placing of the main part of our hydrotherapeutic apparatus on the fifth floor I consider of great advantage—sunlight and air are thus available.

Each wing is provided with continuous baths in close proximity to the single rooms set aside for disturbed patients, thereby facilitating the treatment of such patients. Each wing is also provided with a very large day room, which connects with inclosed porches that extend the whole width of the main building.

The out-patient department has a separate entrance on Polk street. It is our desire that the doors of this department shall be wide open, so

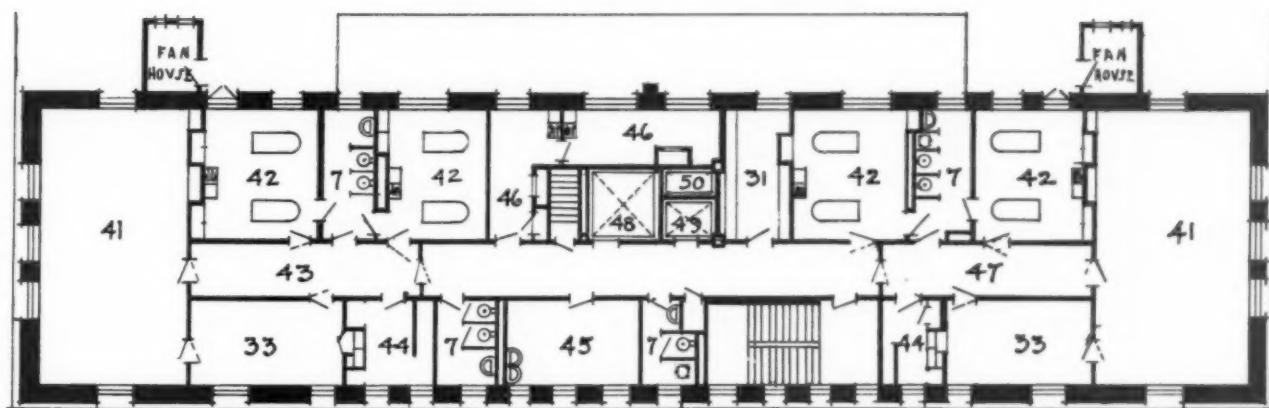


Fig. 8. Cook County Psychopathic Hospital—Hydrotherapeutic department on top floor.

7. Toilet.
31. Main linen room.
33. Hydriatric room.
41. Rest and pack room.

42. Continuous bath.
43. Women's hydrotherapeutic department.
44. Work room.

45. Surgical dressings.
46. Laboratory.
47. Men's hydrotherapeutic department.

48. Public elevator.
49. Private elevator.
50. Dumb waiter.

the admission of patients to the hospital are changed. It should be possible for persons suffering from so-called insanity and conditions classed as border-line cases to enter the hospital without any legal procedure.

According to our laws, an order from the county judge committing the patient to this institution must be procured before the patient can be admitted. The law also provides that the cases must be disposed of within ten days after admission. An attempt has been made during the last session of the Legislature to extend the limit to forty days, but so far we have not been successful. The entire question of legal technicalities surrounding the admission of patients to our hospital is far from satisfactory, and all of our institutions will be handicapped from doing the greatest good to the people of our state until it becomes possible for patients to avail themselves of treatment with no more embarrassment than now attends the admission of patients to any general hospital.

Everything that we can possibly do to prevent the stigma of insanity being attached to our patients will redound to the good of our institutions. Until a short while ago the great majority of our patients were brought to our institution virtually as prisoners in the hands of the police. As far as our women patients are concerned, this has been discontinued entirely. When properly notified, the hospital sends out an automobile in care of a nurse to bring such female patients to the hospital. Since this measure became operative we do not receive as many excited and disturbed women patients, and handcuffs and straps are not seen as often as in the past. This has had a most beneficial effect on the patients. About forty women patients are brought to the hospital this way every month. Quite a few of the women patients are brought in by their relatives, so that it is a rare sight now to see a woman brought to the hospital in a patrol wagon.

Steps have been taken to enlarge the staff, and

it is our intention to secure the services of an expert pathologist and psychologist.

The institution, as it is now conducted and has been for years past, is a free institution, but there seems to be no valid reason why relatives of patients maintained by Cook County, if they are financially able to do so, should not pay for the maintenance of such patients while they are in this hospital. The drawback to such arrangement is that, according to our present laws, the county has no right to conduct anything but a free institution.

PAID TEACHERS AT JOHNS HOPKINS.

Professors in All Departments to Be Paid Full Time—Records New Epoch in Medical Education.

Recently securities valued at \$1,500,000 were presented to the Medical School of Johns Hopkins University by the General Education Board. The gift is to be known as the William H. Welch Endowment for Clinical Education and Research. In the acceptance of the gift the university board announces an accomplished fact of the long-cherished desire to change its teaching organization to include all-time paid teachers in the medical school faculty. The fund will earn interest sufficient to embrace in the innovation the departments of research medicine, surgery, and the diseases of children.

The university board has announced the heads of the three departments under this fund: Dr. Theodore C. Janeway, until now professor of medicine at Columbia University, is the new professor of medicine; Dr. William S. Halsted, whose whole life has been spent at Johns Hopkins, is to continue as professor of surgery; Dr. John Howland, formerly of Brooklyn and until a year ago of Washington University, St. Louis, is the new professor of pediatrics.

Arrested for Using Red Cross.

The recent arrest of the mayor and city clerk of Milwaukee was the first movement in a national crusade against the use of the Red Cross emblem for commercial purposes. It was claimed by the United States district attorney that the city was violating the act of using the emblem on the caps and sleeves of inspectors in the sanitary division of the health department. Mayor Bading declared the insignia had been adopted during his administration as health commissioner in 1910, and never regarded as a violation of the law.

"TWILIGHT SLEEP" FROM THE HOSPITAL VIEWPOINT.

Reasons Why Use of Scopolamin by Americans in Past Was Unsuccessful—Secret of Freiburg Success—Technic of the Conduct of Labor—Hospital Accessories and Nursing Care.

By WILLIAM H. WELLINGTON KNIPE, A. M., M. D.,

ADJUNCT PROFESSOR OF OBSTETRICS, NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; ATTENDING OBSTETRICIAN GOUVERNEUR HOSPITAL.

THE Freiburg method of producing that state of mind called "Daemmerschlaf," or twilight sleep, by the injection of drugs is one that must be almost exclusively carried out in a hospital, and it may be advantageous for us to consider what arrangements in the hospital are best suited to this method of relatively painless childbirth.

During July of this summer I had the pleasure of spending a couple of weeks at the Frauenklinik at Freiburg, and there had the opportunity of becoming intimately acquainted with the method of inducing twilight sleep. Having used scopolamin and morphin in my hospital work several years ago, and having discarded the method as dangerous, I entered Freiburg a skeptic; and it was only after repeated demonstrations of successful twilight sleep that at last I became a convert, and I was forced to admit the poor results that we had obtained previously with scopolamin and morphin were due to the fact that we did not follow the Freiburg method.

Inasmuch as the Freiburg treatment is bound to become the method of the future, it will become necessary for the hospital to have proper accommodations for these cases.

The one requisite for the proper induction of twilight sleep is quiet. The proper location of the delivery room is on an inside court, where the least possible noise obtains. All care should be exercised that the noise from the rest of the hospital should not reach the twilight room. This quiet may be procured by double doors, padded doors, rubber matting, etc. In the private operating room, where only one patient is at a time, it will be relatively easy to obtain this desired quiet, but in the ward operating room, where there may be two or three patients at one time—which, of course, is unavoidable in a large service—one patient may disturb another to some degree.

Besides quiet, means must be used to obtain darkness. It is not necessary that this should be intense, but all care should be used to prevent the entrance of bright light. At Freiburg the ward delivery room opens on a courtyard, with trees about, and by the use of Venetian blinds the room is kept relatively dark. During the induction of the twilight sleep the patient is kept in the delivery room in bed, and, inasmuch as the

process consumes generally several hours, it is impossible to keep the patient on a hard operating table all this while. At Freiburg the delivery room contains three beds, and it is in these beds that the women are delivered, the operating table being used only for those cases requiring operative interference, such as forceps, version, etc. Each bed is screened from its neighbor by curtains of muslin, and the rest of the delivery room is like an ordinary operating room, with the regulation aseptic furniture, sterile receptacles, instrument trays, etc.

NURSING.

As the proper induction of twilight sleep requires the constant attendance of a trained physician or trained nurse, the management at Freiburg secures intelligent nurses and trains them in this method, and they are used in the operating room and nowhere else. Before being placed in charge of a case, the nurse must have at least four months' experience as assistant in the delivery room.

The nurse examines the fetal heart every fifteen minutes, tests the patient's various reflexes, and gives the injections accordingly—subject, of course, to the instructions of the physician, who regularly calls every hour to examine the patient. These nurses at Freiburg, who have had this special training for a long time in the delivery room, become particularly expert, and it will become necessary for us in America to take especially intelligent nurses, who are interested in this work, and train them in this particular method.

DRUGS USED.

The drugs used are scopolamin hydrobromic and some one of the morphin derivatives—either morphin muriate, or narcophin, or pantopon. It has been difficult to obtain a stable solution of scopolamin. The method used to sterilize the solution leads the way to quick decomposition, and the solution which has a certain strength today may in a couple of days lose a great deal of its potency. To obtain a stable solution, Professor Straub, of Freiburg, added the sexatomic alcohol mannit to the scopolamin solution. This has been manufactured by one of the German drug firms according to Professor Straub's directions, but

there seems to be no reason why the chemist should not make up a stable solution for hospital use by the addition of mannit, so that 1 c. c. of the solution equals .0003 gram of scopolamin. The morphin muriate solution should be made up for hypodermic use in the regular way, so that 1 c. c. equals .01 gram of morphin muriate. Or, if narcophin be used, a solution in which 1 c. c. equals .03 gram narcophin. If pantopon be used, 1 c. c. solution equals $\frac{1}{3}$ grain of pantopon. It is convenient to have these solutions put up in ampules, but this is not essential. It is advisable to have two syringes—a 2 c. c. size for the scopolamin and a 1 c. c. size for the morphin—which will measure accurately the decimals of the c. c. At Freiburg record syringes, with a needle suited to both syringes, are used.

Within twenty-four hours after the birth of the child at Freiburg, passive exercises are instituted of the upper extremity, abdomen and back, and lower extremities and perineum of the patient, and it will become necessary in hospital work to instruct the nurses in the method of giving these exercises, which consist in flexion and extension of the extremities, raising the patient to a sitting posture in the bed and allowing her to return to the lying position, and in separating the knees with the patient resisting, and in approximating the knees against the patient's resistance. The patients take kindly to these exercises, and claim they feel very much better after them. On the second day of the puerperium the patient sits up in bed, on the third day sits out of bed, and on the fourth day walks about the ward.

During all this time the exercises have been continued night and morning, and it is surprising with what rapidity the uterus involutes under these circumstances. If the patient is running a temperature, or if there has been a bad laceration of the perineum, the patient is kept in bed for a longer period and the exercises are not taken.

During the course of labor in twilight sleep, accurate notes must be kept of the injections given, their kind, number, origin, etc. The subjective symptoms of the patient must be noted concerning drowsiness, thirst, and pains in the back, abdomen, and perineum. Charts must be kept of the objective signs, such as sleeping during or between pains, motions of the hands, the color of the face, the influence of the drugs on the pains, consciousness of the patient, and the amount of excitation, if present. Note is also taken of the number of examinations, when interference becomes necessary, and the effect of drugs on the voluntary muscular efforts in the second stage of labor. It is also noted whether the pains are frequent, whether they are of long duration,

and whether they are strong. The fetal heart is kept track of every fifteen minutes, as is also the maternal pulse and maternal breathing, and the patient's pulse is taken every hour.

It is only by keeping strict record of these conditions that one is able to judge of the value of this method. Charts should be kept designated "Criticism of the Twilight Sleep," in which there should be divisions concerning (1) success of the treatment, (2) character of the pains, (3) the voluntary muscular efforts of the patient, (4) postpartum hemorrhage, (5) condition of the newborn, (6) what combination of scopolamin with morphin or other narcotic has been used, (7) any special remarks that may be indicated.

Promotions at Johns Hopkins Hospital.

Dr. Carl H. Van Norman has been promoted to the position of first assistant superintendent at the Johns Hopkins Hospital, to succeed the late Dr. Rupert Norton. Dr. Van Norman has been for the past year and a half second assistant superintendent. Dr. Ralph B. Seem has been promoted to the position of second assistant superintendent, and Dr. Lewis A. Sexton, of New York, has been appointed third assistant superintendent. Dr. Sexton has had several years of experience in hospital executive work. He is 37 years old, and graduated from the Vanderbilt University in 1905, since which time he has been on the staff of different hospitals of the contagious disease branch of the New York Health Department. For the past six years Dr. Sexton has been resident physician and assistant superintendent under Dr. Robert J. Wilson, of the Willard Parker and Reception Hospitals, East Sixteenth street, New York City. The Willard Parker and Reception Hospitals have about 550 beds for the accommodation of scarlet fever, diphtheria, measles, and other contagious diseases.

Miss Greener Honored by Mt. Sinai.


The following announcement has been received by THE MODERN HOSPITAL from Mt. Sinai Hospital, New York:

"The Board of Directors of the Mount Sinai Training School for Nurses begs to announce the appointment of Miss Elizabeth A. Greener as superintendent of the school. Miss Greener is expected to begin her duties during the early part of October. She is a graduate of the New York City Hospital, and was assistant superintendent at the City Hospital for four years.

"Miss Greener has been superintendent of the Hackley Hospital, Muskegon, Mich., for the last seven years. The Hackley Hospital has been considered the finest of the small hospitals of the country, and was selected by the board of THE MODERN HOSPITAL magazine as a model institution for a series of articles, which articles were written by Miss Greener and have appeared in THE MODERN HOSPITAL.

"Miss Greener has been very active, and has done considerable work with the Michigan State Board of Examiners. She is president of the Michigan State Nurses' Association and was formerly president of the State League for Nursing Education."

Carpenters are putting the finishing touches on the new building of St. Francis Hospital at Cape Girardeau, Mo.



The
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Contributors, subscribers, and readers will find important information on advertising page 26.

The St. Paul Meeting.

The St. Paul meeting has come and gone. It was a good meeting, but not nearly so well attended as it should have been. There were good papers, but too many; there was good discussion, but not enough; too few people took part; too few people who could have profited most by the meeting sat still, listened attentively, and lost a good deal because of the lack of the stimulus of active participation.

We are beginning to see some faults in the method of conducting the sessions of the association. The large convention hall at St. Paul was too easy of access, too many people ran in and out and made too much noise, so that those who really wanted to hear what was going on could not do so.

While there should be no intention to deprive anyone of participation in the meetings of the association, the business sessions should be conducted with closed doors, open only to active members of the association who have a right to vote; and there should be two business sessions during the convention—one just following the first formal session on the first day, and another on the afternoon of the last day. The public generally and associate members do not care about the business sessions of the meeting; they do not care about the reports of standing committees of a business kind; they do not care about the details of administration of the association, and

these things must be done by the whole association until a board of trustees is finally inaugurated.

Nor does the public care about the little friendly politics concerned in the selection of a meeting place and the election of officers, but these things are necessary and the active members who have a vote must attend to them. Why not make the meeting at which these things are done closed to all excepting those who have a voice—not with a view to shutting out anybody, to preventing the participation of anyone, but merely to expedite the business and to carry it on in a workmanlike manner?

The commercial exhibit at St. Paul was one of the best things at the meeting. There were enough exhibitors, and they expended enough money on their exhibits to make us certain now that if the commercial exhibit of these association meetings were got up in a businesslike way, by people paid to attend to the work, it could be made not only one of the most instructive parts of the conventions, but could be made largely remunerative, and could perhaps pay all the expenses of the association for the year, leaving the dues and fees for the free use of the association for important scientific purposes.

The noncommercial exhibit was not very good. There seems to be a want of perception on the part of hospital people as to what the noncommercial exhibits should show. There are literally hundreds of valuable things in the hospitals of the country that would be a liberal education to other hospital people, and these things ought to be exhibited. It seems, however, that the business of securing such an exhibit will have to be somewhat changed. A good many people who have valuable things that they might show do not know just how to go about it; some of them feel that they ought not to be called on to pay the expenses of getting their stuff to and from the exhibition. It would appear that the association should pay transportation on the noncommercial exhibit, and should attend to unpacking and repacking and reshipping to the homes of the exhibitors. The association, it would seem, should also set up the exhibition space, decorate it, and make it attractive as well as instructive.

There were too many papers on the program at St. Paul, and the papers were too long. Undoubtedly Dr. Howell was protecting himself, in preparing so long a program, against the disinclination of members to discuss papers. It is an impossible thing to get up an attractive and spirited meeting unless there are lively discussions; the only alternative, of course, is enough papers to fill up the whole program. But at St. Paul there

were probably more people who would have been willing to discuss papers if they had been urged to do so. It seems as though the presiding officer of the American Hospital Association must have some of the attributes of a banquet toastmaster, and that he will have to help carry the sessions along by versatile comments and a quip here and there. Nothing serves to so break the formality of a meeting as a warm human touch and a ready, versatile wit on the part of the presiding officer.

As for the social side of the meeting, it was all that could have been asked for. First of all, our host, the St. Paul Hotel, made us all feel that we were welcome. That is a wonderful hotel. It is new, apparently close by every part of the beautiful city, and its service was all that could have been desired. It means very much to a convention to meet in a hotel where there seems to be a sympathetic interest in the convention on the part of everybody from the manager to the bell boys. And another nice thing: although the hotel was very crowded, everyone, without exception, seemed to be provided with accommodations that just exactly pleased him or her—and that means a great deal too.

Dr. Ancker, chairman of the committee of arrangements, Dr. Baldwin, Mr. Olson, Miss Keller, indeed everybody, endeavored to do everything they could for the pleasure and enjoyment of their guests. All in all, St. Paul was a most successful meeting.

Dr. Mayo's Paper at St. Paul.

Dr. Charles H. Mayo's paper, read before the St. Paul convention, was an illuminating document. We hospital administrators become accustomed to a close view of things as they go on in our institutions. We have no perspective. The physician or surgeon, on the other hand, doesn't see our petty worries of administration, and can, therefore, get a better view of the highlights of the hospital.

Dr. Mayo's paper was a veritable kaleidoscope of high-lights; moreover, he touched on points that most of us, confined in our activities to executive work, regard as too delicate a matter for us to handle—at least without gloves, as Dr. Mayo has done. Medical staff members will find very much for study in Dr. Mayo's paper, and hospital trustees will find some things there that will help them enormously if they but realize the fact.

Most of us talk about our purchasing department and the stopping of wastes in the hospital. We think we do well if we can practice petty economies, but, when all is said and done, Dr. Mayo has touched the very quick of the whole

problem of efficient and economical hospital administration.

Keep exact records of what the physician and the surgeon are doing, just as we keep books on ourselves; weed out the inefficient, the dishonest, and the untrained; see whether our diagnoses are being made according to the best that medical science has to offer before our patients are operated, and this can be told by honest, competent reports; see whether the operations are done with that amount of skill that will get patients out of bed and well again promptly, as measured by the state of surgical science; see whether patients are being operated unnecessarily and for diseases that they do not have. Is Dr. Mayo right, and are patients in hospitals being operated because they can pay a fee, and is the answer to this question available to the trustee in the hospital and the efficient administrator? Are patients being kept in bed, following operation, for two, three, and four weeks longer than the state of surgical science makes necessary?

It is highly necessary that we practice economy and efficiency in all departments of our hospitals, but, after all, efficiency and economy are measurable in terms of sick people cured. No matter how well we do in other departments, if our physicians and surgeons are not doing well in theirs, they can vastly reduce the number of people benefited and hence vastly increase the cost of service to the sick.

Our own economies in our physical departments are pigmy beside those that can be practiced by an efficient and honest medical staff. Dr. Mayo's paper furnishes food for very serious thought not only to the hospital people, but for everyone who is seriously concerned about the public welfare.

More Trouble at Cincinnati.

The magnificent new five-million-dollar municipal hospital at Cincinnati seems destined to trouble "as the sparks to fly upward." A year ago Dr. Summersgill, a highly trained and thoroughly efficient administrator, was forced out of the management by petty politics. Merely as going to show the estimate placed on Dr. Summersgill's abilities by people who are capable of judging, it may be stated that he was "grabbed up" by the University of California for the superintendency of the magnificent teaching hospital now in course of construction at Berkeley.

Now Dr. Charles F. Sanborn, who has been at the Cincinnati hospital only a few months, is being forced out by the same insidious agencies that caused Dr. Summersgill's retirement. Dr. Sanborn had made his reputation as an adminis-

trator of the first class before he went to Cincinnati. He has not all of a sudden become incompetent. He is just as good a man as he was when he passed the highest in competition with twenty-five trained hospital men for the medical wardenship of Cook County Hospital. He is just as good now as when he was chosen for Cincinnati at the end of a competitive examination, and backed by the strongest possible letters of commendation from many of the best medical men of Chicago, who knew his work.

Some of the best men of Cincinnati, men who have the hospital's best interests at heart, and who are wholly disinterested in their devotion to it, have expressed sincere regret that Dr. Sanborn is leaving; and some of them, who know, say that he was giving a splendid service and had inaugurated many improvements, and that he had many more in mind if he had been given a free hand.

If it was not the fault of these two able men that they left Cincinnati, whose fault was it? Where is the insidious influence that is preventing progress in the Cincinnati General Hospital? We leave the answer to the people of Cincinnati and to the medical profession of that city.

Just one thought more: Cincinnati has a new hospital, very large for the size of the city, and, by reason of its peculiar type of architecture, one that will cost a great deal of money to administer. Unless someone is placed in charge there who is a master hand at institution management, and who is to be given a free hand to organize its forces properly, the city will pay some very large sums of money unnecessarily, and it will pay even more in the shape of inefficiency in the care of the sick poor. Is it conceivable that an industrial corporation would spend \$5,000,000 for a new plant and put it in charge of a novice in the business that was to be done in it? And is there an industrial business whose output is so valuable as that of a hospital, or one in which mistakes can be so costly?

"The Ill Wind—."

Now that the war is developing the great extent to which this country is dependent on Europe, especially for scientific supplies, such as chemicals, drugs, and scientific instruments, a movement is taking form to ask for a change in the patent laws to compel foreign patentees to begin the manufacture in this country of the article patented in the United States within a certain time after the issuance of the patent, on pain of cancellation. Most countries have this provision in their patent laws at the present time.

Although the war is only six weeks old, a num-

ber of manufacturers are already getting ready to make, on this side of the water, articles heretofore made only in Europe. Some of these articles interest the hospital world; for instance, enameled ware has been made in Sweden and Austria. Arrangements for its manufacture in this country are now under way. This ware has been made here ever since the process was patented; indeed, the original patents were granted to the Niedringhaus Brothers, of St. Louis, on what they called at that time "granite ware." Europe appropriated the process, improved it by their slow, patient hand work, and finally took the trade as well as the reputation of the business. Since then imported enamel ware has had the call.

The makers of this ware in this country say they can make as good stuff as Sweden or Austria, but that the American trade will not pay for a better grade than they now make unless it has an import stamp on it. Now they are going to make it.

Our people are also going to make cut and etched glassware for hospitals. Heretofore Germany has made all the glass graduates, urinals, medicine glasses, milk bottles, and the like. Now our people are going to make these goods.

As going to show the trend of the time in the matter of foreign-made goods, a little incident will be of interest: A representative of a foreign house had recently contracted to supply several millions of packages of the little matches that cigar stands give away as an advertisement, with their names printed on them. These matches are of two kinds, one of wood and the other of paper. The wood ones are all made abroad, and it was this kind that the agent had sold. When the war broke out he was unable to deliver, and ruin stared him in the face, as his customers would not accept the paper matches.

Accidentally he heard about a recent arrival in this country, living in the Chicago Ghetto, who had been a matchmaker before he came over. This man was making the wooden matches in a small way and selling them to a little trade he had worked up. The agent found this man, "incorporated him," as he said, and is already making arrangements to make the wooden matches on a very large scale.

There are literally hundreds of articles heretofore made abroad that will now be "made in the United States," and the hospital people should be patriotic enough to use home-made things. Ida Tarbell, in the *Woman's Home Companion* for October, is to have a special article on the subject of patriotism of American women, expressed in their patronage of American-made goods as one of the results of the war.

Everybody should help to establish the suprem-

acy of our country. No such opportunity has ever presented itself before, and "opportunity," it is said, "knocks only once."

The Twilight Sleep.

In other pages of this issue will be found a paper by Dr. William H. W. Knipe, of the New York Post-graduate Medical School and Hospital, on the hospital aspects of the now much discussed Daemerschlaf, or twilight sleep, of women in labor, as practiced at Freiburg, Germany.

There seems to be a pretty general consensus of opinion in this country that Kroenig and Gauss overstepped the bounds of professional propriety in advertising themselves and their work in this country as they did, using the medium of McClure's Magazine, after having failed to startle the profession in their papers before the Clinical Congress of Surgeons of North America a few weeks previous.

But it seems to the innocent bystander that, regardless of the methods employed by the German professors to attain publicity and perhaps personal notoriety, the main question is, is the practice developed by these men a good thing, and, if so, it seems we ought to master it and set it to work.

Dr. Knipe tells us he went to Freiburg a skeptic and came away a believer. Dr. Knipe's position in this country and in his profession is too well recognized for anything that he says to be ignored. Hence, when Dr. Knipe says that the twilight sleep is to come into common practice on this side of the water, we hospital people and the medical profession had better forget, even if we cannot forgive, the late unpleasant "visit to the trade" made by Kroenig and Gauss, and get to work to perfect a proper technic where the practice is to be employed.

Dr. Knipe has addressed himself in his paper, through THE MODERN HOSPITAL, to the hospital people, because, he says, only in the hospital can the facilities and a proper environment for this practice be found.

We had all better read and study this paper carefully, and, if there are medical staff men in our hospitals who are so unfortunate as not to be in touch with THE MODERN HOSPITAL, it will be advisable that their attention be called to the paper.

Kansas City's Good Fight.

The politicians in Kansas City are hard pressed in their attempts to hold that fine institution, the Kansas City General Hospital, as part of the political pork barrel. Almost the entire population of the city is up in arms against the raiders.

Lately a neat little coup was attempted when the hospital board, ever ready to pull the chestnuts out of the fire for the bosses, announced a reorganization of the medical staff and the reinstatement of the leaders in the profession who had been dropped a year or so ago.

The trick has not worked, and it will be interesting to watch for the next stand the ward heelers will make in their foray. The good people of Kansas City should have courage; their fine hospital is their most valuable asset, and well worth fighting for. Drive the rascals out and keep them out.

Mr. Townsend's Paper.

In this issue will be found what is perhaps the most valuable paper ever offered to the hospital people—namely, that by Mr. F. C. Townsend, of New York, on hospital cost accounting. Judging by his intimate knowledge of hospital conditions and needs, Mr. Townsend has evidently been an acute and masterful student, as well as a practiced hospital adviser over a long period of time.

This paper is not confined in its usefulness to hospitals of any class or size, nor is it directed to trustees, administrators, and accountants alone. Every person serving in any intellectual capacity in any kind of institution for the care of the sick will find in it abundant food for profitable thought and study. Moreover, it is written in a breeziness of literary style and in a simplicity of language that raises an ordinarily dry subject into the realms of really entertaining reading.

THE MODERN HOSPITAL bespeaks for this paper careful study and attention by all its readers.

It was agreed long ago that THE MODERN HOSPITAL is to be an open forum for the expression of every angle of thought concerning hospital activities and the public health and welfare. What one reads in its columns, therefore, need not be considered as expressing an editorial policy of the journal. Indeed, the editors themselves differ on many points, and all of them often differ from opinions expressed by contributors.

A private institution to be known as the Central Institute for the Deaf has been established at St. Louis by Dr. M. A. Goldstein and others. According to an announcement just issued, the enterprise is the outcome of a concerted movement on the part of a number of progressive educators and prominent otologists representing various parts of the country, who believe that there should be a closer cooperation between the two professions in the education of the deaf. A school for the instruction of the deaf by advanced methods will be conducted, and a course will be offered for those who desire to prepare themselves for oral teaching. Dr. Goldstein was professor of otology in the St. Louis University from 1900 to 1912, and is president of the American Academy of Ophthalmology and Otolaryngology.

MEETING OF THE AMERICAN HOSPITAL ASSOCIATION.

Sixteenth Annual Conference of the Association in St. Paul, August 25-28 —Important Papers Presented—Business and Social Features Pleasantly Coordinated.

The St. Paul meeting of the American Hospital Association was one of the most profitable in its history, and everybody who attended not only learned a great deal that will help them in their hospital work back home, but everybody had a good time. One of the finest things about these conventions is the personal friendships one makes, and, although we may not see each other excepting once a year, still we value these convention friendships, and perhaps the greatest good that we get out of the conventions is the personal contact with people who, by reason of the similarity of their business or their purposes, or their social inclinations, come in contact during the four days' session. Breakfasts, suppers, and dinners in the grill rooms and restaurants, where three or four men or women, or both, can sit for an hour or so together, are not the least important and profitable parts of the conventions.

There were perhaps 500 people in the convention hall when President Howell called the meeting to order on Tuesday morning, August 25, at 10 o'clock.

There was a mishap at this first public meeting. The mayor of St. Paul had agreed to deliver the address of welcome, but he failed to appear, although he had promised less than an hour before the time that the convention was to meet that he would be there.

The meeting was begun with an invocation by Reverend Dr. Edwin B. Woodruff, pastor of St. Clemens Memorial Church, of St. Paul. The next person was to have been the mayor, and, when that official failed to appear, Dr. Woodruff was asked to take his place, since the mayor had not even done the convention the courtesy to appoint someone to welcome the guests in his stead. Dr. Woodruff in a very nice speech told how important the hospitals of the country were, and how glad the city of St. Paul was to honor them through their superintendents, and he hoped that everybody would have a good time and learn much from each other. His Reverence then proceeded to trim the mayor of St. Paul for the discourtesy he had shown the association, and regretted very much that petty politics should have been allowed to intervene in the case of so great as well as pleasant a duty as that which had fallen to the mayor of St. Paul.

Dr. Woodruff began his address, "My friends, I was asked by one of the most distinguished citizens of St. Paul to express the regret—and the chagrin, let me say—that I

feel and that the citizens of St. Paul feel at this moment." This had reference to the failure of the mayor to welcome the guests.

President Howell read his address as the next number of the program. The president's address was published in the September number of THE MODERN HOSPITAL.

Dr. J. W. Fowler, of Louisville, made his motion, which has come to be an annual motion at the same point in the program, that a committee of three be appointed to consider the president's address, and make recommendations in furtherance of the suggestions the address contained. Dr. Fowler also spoke of the regret of the assembled guests that the mayor of St. Paul could not be present, but

he was disposed to sympathize with the mayor, and hoped that the guests would not feel that they had been slighted, because he was quite sure that no mayor of a large city could respond to all such calls made on him.

Dr. Clarke, of the Toronto General Hospital, and chairman of the Committee on Medical Organization and Medical Education was not present to read the report of his committee, and it was read by Dr. O. H. Bartine, superintendent of the Hospital for Ruptured and Crippled, New York.

Mr. Curtis, who was to have read the report on "Hospital Construction," was not present, and seems not to have intrusted his committee report to anyone who was present, and hence a report from this committee was not made. Dr. R. J. Wilson, director of the Health Department of New York City, read Dr. Charles Bolduan's paper on "Hospital Morbid-

OFFICERS OF THE AMERICAN HOSPITAL ASSOCIATION FOR 1914-1915.

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DR. WILLIAM O. MANN,
Superintendent Boston Homeopathic Hospital,
Boston, Mass.

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Superintendent City and County Hospital,
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MR. W. W. KENNEY,
Superintendent Victoria General Hospital,
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TREASURER,

MR. ASA BACON,
Superintendent Presbyterian Hospital,
Chicago, Ill.

SECRETARY,

DR. H. A. BOYCE,
Superintendent Kingston General Hospital,
Kingston, Canada.

*Time and place of next meeting, San Francisco,
June 21-25, 1915.*

ity Statistics and a Practical Method of Making Them Uniform and Collecting Them for Analytical Study." There was no discussion of the paper. The morning's session closed with the extension of an invitation by Dr. Ancker for the visitors to be his guests at the City and County Hospital, St. Paul, and he assured those in attendance that there would be officers and nurses at the hospital constantly to show them through, although, he modestly said, he was afraid they had nothing very much worth seeing.

In the afternoon Miss Roberta M. West's paper on "Where Shall Nurses Be Trained?" was read by Miss Clio Holloper. The president stated that discussion of Miss West's paper would be postponed, as the subject-matter was very closely allied with that treated in the paper of Miss Mary

C. Wheeler, of the Illinois Training School for Nurses, which was next on the program. Miss Metcalfe, Miss Justis, and Dr. Frank Deacon, of Chicago, discussed the papers. Dr. Deacon went somewhat into the history of a movement on the part of many hospitals of Chicago to revolt against the domination of the Illinois Board for Registration of Nurses. He felt that the board had discriminated against the small hospitals, and had all but prevented them from conducting their hospitals in the best way they could under the circumstances. He opposed the raising of training standards of nurses, and charged that hardly any hospital in Chicago was living up to the standards prescribed by the state board. Indeed, he was quite sure that the rules of the board could not be lived up to in a practical, every-day fashion.

Mr. John R. Shalladay's paper on "How the Average Community Cares for Its Sick—A Study in the Amount, Character, and Care of Sickness in Selected Urban and Rural Districts of Dutchess County, New York," gave some most interesting facts and data that had been secured in the course of the questionnaire that had been sent out, and information that had been acquired during a careful canvass in Dutchess county.

Tuesday evening's session was opened with Miss Anna Louise Davis' paper on "Nursing in the Homes of People of Moderate Means." Miss Davis had an interesting story to tell. Most of us will remember the paper of Dr. Richards M. Bradley last year on somewhat the same subject. Mr. Bradley is one of the trustees of the Thomas Thomson Trust and Miss Davis is employed in connection with that work. It seems that Mr. Thomson left a large sum of money to be employed by the trustees in the best way they knew how and in which it could be made most profitable for the public. Mr. Bradley and his cotrustee, Mr. John F. Moors, decided there was a great field for the promotion of home nursing and that the work was worth doing. Miss Davis' paper told about some of it. Because the next two papers, that by Dr. Walter Morrit on "The Medical and Sociological Departments of a Coal and Iron Corporation," and that by Miss Minnie Goodnow on "Efficiency in the Care of the Patient," were along the same general lines, discussion of the three papers was postponed until all had been read, and, as interesting as the subjects were, only one person discussed them—namely, Dr. J. N. E. Brown, who had prepared a paper on the subject.

HIGHLIGHTS IN DR. MAYO'S PAPER.

The so-called diseases of childhood are unnecessary, since they can now be controlled.

Considering what has been done for the insane, the future must establish proper hospitals for the cure of drug habits, morphin, cocain, and the like.

Since the state licenses places for the destruction of man, it should also control places designed to help him. Drug stores must be licensed to prevent their abusing their opportunity by selling liquors and harmful drugs. The self-dispensing physicians should be in the same class.

Hospital reports are mostly worthless—usually given over to self-advertisement. There should be uniform reports, inspected regularly by an officer of the state. Reports should tell the truth about the physician and surgeon, as well as about the disease and the patient.

Few questionable procedures are made on the external body; they are mostly hidden and—often buried.

If hospital reports were right, and if trustees were capable and active, they would weed out incompetent staff members, since they could learn from the reports whether they were capable. The character of operations would tell whether they were necessary and whether they were successful; how many patients came back for a second operation because the first was a failure; why certain men made so many currettements; how many men did unnecessary operations for a division of fees.

Patients should be got out of bed sooner following operations, and should be sent to the country to complete convalescence. Time and opportunity of patients are wasted by keeping them in bed too long and their chances lessened. Hospitals waste time and money by prolonging patients' recovery and attempt to make up the deficits by other means.

One thousand operated patients a year, that took three weeks to get well when they should have taken one, means support for a 40-bed hospital for a whole year. Eight hundred gall bladder operations that took eight weeks instead of four means one bed for thirty-five years.

The most vital need for hospital efficiency is on the medical and surgical side.

Unfortunately, Mr. Meyer J. Sturm's most interesting lantern slide paper on "Artificial Lighting of Hospitals" was postponed until too late in the evening to be well attended and too late for those in attendance to be especially appreciative. Mr. Sturm's paper was somewhat long, and some excellent lantern slide lighting pictures were shown. Mr. O. H. Bartine, of New York, discussed Mr. Sturm's paper by the presentation of a paper of his own on the same subject. Mr. Bartine's discussion was so signal a contribution to the art of lighting that THE MODERN HOSPITAL has asked him to finish it as a separate paper, and it will be published in an early issue. The paper was also discussed by Mr. Stevens, of Boston.

Wednesday morning the convention hall was packed to the doors, everybody being anxious to listen to the paper by Dr. Charles H. Mayo, which appears in another column of this issue of THE MODERN HOSPITAL. Dr. Richard O. Beard, of the medical faculty of the University of Minnesota, and Dr. Hornsby, of Chicago, discussed Dr. Mayo's paper. The next paper of Wednesday morning's session was that by Dr. Joseph B. Howland, of Massachusetts, on "Hospital Records." Dr. Howland's paper is published in this number of THE MODERN HOSPITAL. It was discussed at the meeting by Mr. Shalladay; Mr. Chapman, of the St. Louis City Hospital, and Captain E. F. Leiper, of Philadelphia.

Dr. George O'Hanlon, of Bellevue, read a most interesting paper on "The Responsibilities of the Municipality to the Expectant Mother of the Middle Class." Dr. O'Hanlon, in his paper, told what Bellevue has been trying to do in the matter of teaching midwives. At the end of his paper, Dr. Babcock asked Dr. O'Hanlon if he had had the support of the medical profes-

sion in New York in the furtherance of his project to teach midwives their business, to which Dr. O'Hanlon replied: "I cannot say that we had the support; we had the cooperation of a number of physicians and the business staff in this course for midwives, and instruction to the pupils from the visiting obstetricians and physicians of Bellevue Hospital."

Dr. Walsh's paper on "The Hospital Superintendent—Past, Present, and Future," brought out discussions by Dr. Warner and Dr. Howland.

The section on small hospitals, Wednesday morning, presided over by Miss Rogers, of St. Louis, proved to be

one of the most interesting sessions of the whole meeting. Reverend Dr. A. E. Clement, commissioner of Galloway Memorial Hospital, Nashville, opened the session with a paper on "Raising Hospital Funds—Its Educative Value." Dr. William T. Graham's paper came next, on "The Private Hospital Enterprise as a Public Interest." The paper by Mr. J. B. Franklin, superintendent of the Baptist Memorial Hospital, Dallas, Tex., was not read, as Mr. Franklin was not at the meeting.

The discussion on the two papers was opened by Miss Jordan, of Aurora, who told what she had been doing for the Aurora hospital in the matter of publicity, about what she had given to the newspapers in the way of publicity, and how much it had helped her. She told also about Tag Day that she had instituted. She gave an interesting story of her experiences with her medical staff, and how she had got along with the individual members. She brought a laugh by saying she gave them an annual dinner as one way to keep men in good humor. "We had such an excellent dinner last year that men who had not been speaking for years were having the most confidential conferences before we were through," she said. She didn't say what special number of the menu had brought about this pleasing effect, so the prescription cannot be applied by others unless Miss Jordan will tell us more about that dinner. She told about a "whirlwind campaign" that had cost \$5,000 for dinners and another \$5,000 for advertising. Miss Jordan said she had a deficit last year of only \$5,000 on an 85-bed hospital. Miss Jordan's paper brought out a great number of questions bearing on her experiences at Aurora, and the interchange of experiences was fast and furious for an hour. The paper was also discussed by Dr. Simon Cox, of New York; Miss Hayden, Miss Burns, Miss Garrett, Mr. Ritchie, and Mr. Dikman.

Mr. English, for the Thompson Foundation of Boston, made the following announcement at the end of the session: "For more than two years the Thompson Foundation in Boston has been investigating the administrative problem of the small hospital—I mean running 50 beds or under. They will be glad to cooperate with the superintendents of your hospitals of that size to help them solve their problems, and in return the Foundation expects co-operation in the establishment of a uniform system, so that we can judge the efficiency with which our own hospitals are operated as well as the particular hospitals adopting the system. I will be glad to talk with anybody while I am here. I shall be here until the close of the con-

vention, and anybody interested will get an immediate reply by addressing the Thomas Thompson Foundation, 60 State street, Boston. There is no expense connected with it. For the first year all the hospitals in the New England district will be supervised personally and helped in installing the system. We are very glad to help anybody. We have found it very successful in the hospitals where it has been adopted. We now have four hospitals using the system, and it has proven successful, having increased the efficiency in every hospital where it has been used."

The afternoon session of small hospitals on Wednesday was presided over by Dr. W. G. Neally, of Brooklyn, in the absence of Mr. Webster, of Montreal. The first paper on the program was that by Reverend Irving B. Johnson, trustee of St. Barnabas Hospital, Minneapolis, who spoke

on "The Experiment of a General Hospital Without a Staff." Mr. Johnson told what efficient work his hospital had been doing without a medical staff, and in the course of the discussion it developed that for six months he had been out of the city and was not conversant with what had been done, and was obliged to call on the superintendent, Miss Hartry, to answer a very obvious question. It is said by those who heard Mr. Johnson's paper read that it was a most amazing document, and enunciated a number of facts about the administration of hospitals that were new to the audience, especially facts concerning the arrangement for the care of charity cases. Mr. Johnson said St. Barnabas had a visiting nurse who had the right to call in any outside physician whom she could interest in the case, and that he thereupon became the physician of the patient. Mr. Johnson did not know whether the physicians of Minneapolis responded on such occasions with that alacrity with which they

are accustomed to respond when they are members of the staff of the hospital. It developed that in the old arrangement the staff changed each month, and that the charity patients came under the care of the particular physician who happened to be on service during that month. It developed also in the course of the discussion that the private nurse, who seems to have unlimited powers concerning charity patients, is paid by a private party. In the course of the discussion the question of medical ethics as propounded by county medical societies came up at the instance of Dr. W. H. Walsh, of Philadelphia, and Mr. Johnson said, "I don't think your county medical society amounts to a row of shucks when it comes to the ethics of the profession." He said further, "I don't think, on the other hand, that the doctors have any right



DR. WILLIAM O. MANN, PRESIDENT.

Superintendent Massachusetts Homeopathic Hospital.

Dr. Mann, of Boston, newly elected president, is a graduate of Boston University School of Medicine, 1892; was assistant physician of the State Hospital, Westboro, Mass., 1892-1895; assistant superintendent of the State Hospital, Fergus Falls, Minn., 1895-1899; superintendent of the Massachusetts Homeopathic Hospital since 1899.



DR. ARTHUR B. ANCKER, FIRST VICE-PRESIDENT.

Superintendent St. Paul City and County Hospital, St. Paul, Minn.

Dr. Ancker, of St. Paul, newly elected first vice-president, has been for more than thirty years superintendent of the St. Paul City and County Hospital. Beginning in an old dwelling house, he has seen his hospital grow until it is now one of the finest hospitals of any class in this country, containing over 600 beds.

to ask the layman or staff superintendent to assume that responsibility. I think that question is up to the profession, and I think it is time that the physicians worked up a scheme of purifying themselves and not leaving it to lay superintendents to pull the chestnuts out of the fire." In answer to a question, Mr. Johnson said the charity committee of the hospital had the exclusive decision as to whether a charity patient should be admitted to the hospital or not, and the rule was that physicians might suggest the admission of such patient.



MR. W. W. KENNEY, SECOND VICE-PRESIDENT.

Superintendent Victoria General Hospital, Halifax, N. S.

Mr. Kenney, of Halifax, Nova Scotia, newly elected second vice-president, was born, reared, and educated in Nova Scotia. After some business successes, was invited by the Government of Nova Scotia, sixteen years ago, to accept his present position of superintendent of the Victoria General Hospital of Halifax.

Dr. Graham, in discussion, stated that he did not see how a hospital could avoid responsibility for the work done within its walls, and he did not see how proper work could be maintained if any physician from anywhere could come in and do any kind of work he pleased; and he did not see who was to judge of the propriety of the physicians' work where there was a lay board and a lay superintendent and no medical staff.

Mr. Olson made the report of the committee appointed last year to consider the value of certain recommendations



DR. H. A. BOYCE, REELECTED SECRETARY.

Superintendent Kingston General Hospital, Kingston, Ont.



MR. ASA BACON, REELECTED TREASURER.

Superintendent Presbyterian Hospital, Chicago, Ill.



Members and guests of the American Hospital Association

made in Mr. Heyworth's paper on "What the American Hospital Association Can Do for the Hospitals of the Country."

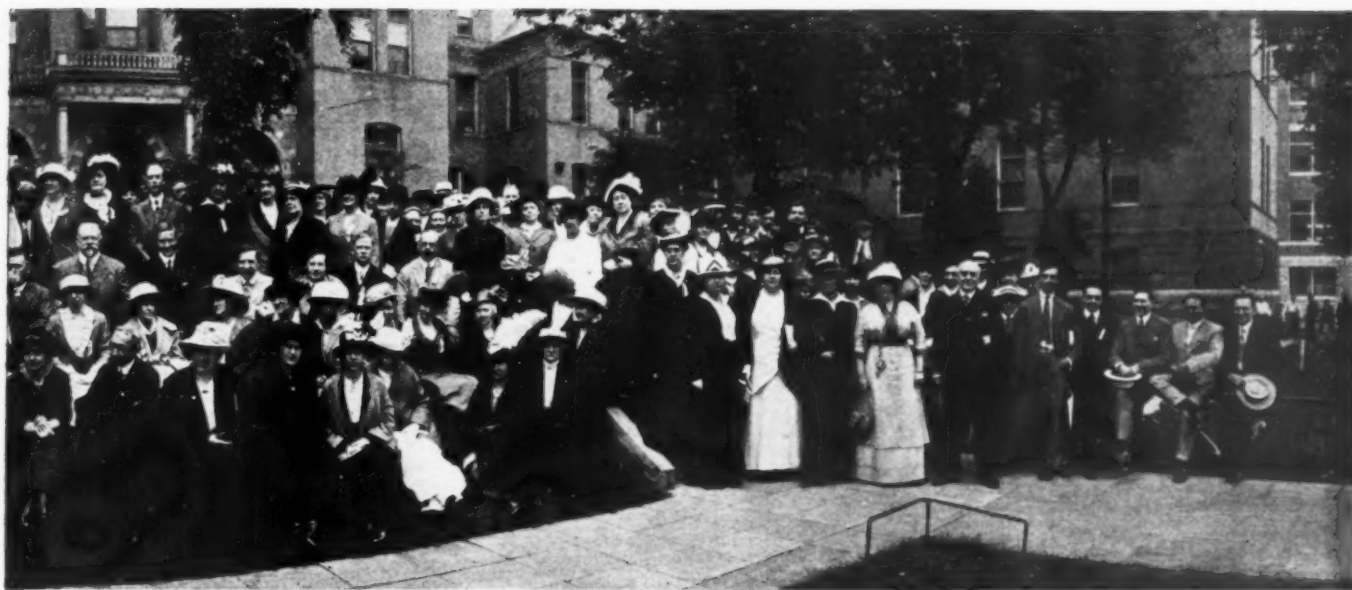
Announcement was made by the chairman that at the close of the session a meeting of the superintendents from Ohio would be held in an adjoining room for the purpose of creating a nucleus for an Ohio State Hospital Association.

Miss Dale's paper on "The Hospital Family—Cooperation in Domestic Management" was published in the September number of *THE MODERN HOSPITAL*. There was a fine discussion of the paper by Mr. Pliny O. Clark, Mr. Olson, Dr. Babcock, and Miss Aiken. Mr. Clark spoke of a "round table" held in the Ohio Valley General Hospital

at Wheeling, in which the engineer, the housekeeper, the principal of the school and her assistant, the dietitian, the pharmacist, the steward, and all the head nurses participated. Mr. Clark was asked whether there were social features connected with these round tables. He said there were not, but that they were held immediately after luncheon, once a week. Dr. Babcock, in the discussion, told of the new Employees' Home at Grace Hospital, Detroit, with separate entrances for different classes of employees, and with features for the entertainment of the people, such as card and pool rooms for the men and reading rooms and recreation places for the women. The matron at Grace Hospital thought the efficiency of the force had been greatly increased since some attention was being paid



A view in the noncommercial exhibit hall.



who visited the St. Paul City and County Hospital.

to the welfare of the people, and she thought the class of people had greatly improved. In answer to a question, Dr. Babcock said there were reception rooms in the maids' home in which they could receive their friends at any time, and that the girls were greatly pleased with these social opportunities and took advantage of them. There were some pretty rigid rules about the hours of the people, but they were liberal enough so that all reasonable demands of employees could be met; as, for instance, the women must be in the house at 10 o'clock in the evening, excepting for two evenings in the week, on which they were permitted to ask for late permits up to 12 o'clock.

In the large hospital section, on Wednesday afternoon, Dr. J. W. Fowler's paper came first, on "Scientific, Economical, and Humane Conduct of Municipal General Hospitals in the Southern States." Dr. Fowler's paper was

published in the September number of THE MODERN HOSPITAL. Dr. Wilkins read a paper discussion by Dr. Wayne Smith on Dr. Fowler's paper, and Miss Hollopeter did not think the negroes were so easy to take care of as Dr. Fowler had found them. She found they were destructive, hard to teach and hard to handle, and that they created quite a problem in any hospital in which there were any considerable number of them.

Miss Holloway's paper on "Hospital Housekeeping" will be published in the November number of THE MODERN HOSPITAL. In his introduction of Miss Holloway, the president stated that he had heard preceding programs criticised for the reason that they contained no practical paper on housekeeping, and that he had determined when he was elected president that his program should not be criticised in that way; he had therefore gone to Pratt Institute, in



A view in the noncommercial exhibit hall.

Brooklyn, and secured Miss Holloway's consent to come and read a paper. The paper was discussed by Dr. Howland, Dr. Mann, and Dr. Walter S. Goodale, of Buffalo.

Dr. Pratt's paper on "Hospital Ambulance Service" was next read, and brought out a good deal of discussion, notably by Dr. Mann, who gave some figures of gasoline ambulance costs. He said that at his own institution one of the gasoline machines had run 25,000 miles in the past eighteen months and had cost for gasoline, tires, repairs, and painting at the rate of 10 cents per mile. He thought that was higher than an electric automobile would have cost, and he thought perhaps the electric automobile would do very well for cities like New York or Detroit, where the calls were short, but that in his institution, where the calls were sometimes as far away as twenty-five or thirty miles, the electric machine was out of the question.

Dr. Walter S. Goodale told about some new gasoline ambulances used by the health department of the city of Buffalo, which were equipped with a series of five metal linings, any one of which could be fitted into the inside of the machine. The patient rides in this lining, which hugs the inside of the ambulance body everywhere, and he does not come in contact with the ambulance body at all. One of these linings is used for diphtheria, another for scarlet fever, measles, and so on. Dr. R. J. Wilson, of the New York Health Department, thought that there was a special use for every variety of ambulance in connection with the hospital service—horse, gasoline, and electricity. He said New York intended to put in Dr. Goodale's patent lining. Dr. Wilson, in answer to a question, said he liked the electric car better than others for Manhattan Island; for all the outlying boroughs, where there were many miles of unpaved streets, he liked the gasoline motor best, and for sections where there is a lot of sand and heavy going there was nothing that could take the place of the horse ambulance.

The Thursday evening session of the round table connected with small hospitals, and presided over by Mr. Olson, turned out to be one of the most interesting sessions of the meeting. There were a great number of questions asked and much lively discussion participated in by more than twenty of those in attendance.

[Comment on the meeting will be concluded in the November issue.]

Excellent Staff Provision.

The Physicians' and Surgeons' Hospital is the name of a new institution, ground for which was broken in New Haven, Conn., on September 1. The hospital will be for the accommodation of pay patients only, the charge for a bed being from \$10 per week in the wards to \$75 per week in the private rooms. The attending staff will be organized on a novel plan, as no physician or surgeon will be eligible for election to it who has not demonstrated, by publication in the medical press or by some other actual work done, that he is capable of filling a staff position in an efficient manner. If he becomes a member of the staff, he has to write an article for publication in the medical press at least once a year, describing some work which he has personally done or some discovery which he has made. Failure to do this automatically terminates his membership on the staff. It is expected that the hospital will be ready for the reception of patients in about one year.

The New York City farm for inebriates at Warwick is to be converted into a sanatorium for drug users. Patients of this class in the metropolis appear to be on the increase, over 1,000 of them having been sent to the various city institutions since July 1.

JOHNS HOPKINS TO CELEBRATE.

Osler, Welch, Hurd, Smith, and Others to Help Celebrate Natal Day of Hospital and School.

Johns Hopkins Hospital and the Medical School are to have a four-day festival on October 5-8 in celebration of the quarter-centennial anniversary of the opening of the hospital and the twenty-first anniversary of the opening of the medical school. The program is as follows:

PROGRAM FOR THE CELEBRATION OF THE TWENTY-FIFTH ANNIVERSARY OF THE OPENING OF THE JOHNS HOPKINS HOSPITAL.

MONDAY, October 5.	TUESDAY, October 6.	WEDNESDAY, October 7.	THURSDAY, October 8.
Nurses' Day	9:30-12 Medicine (Medical Amphitheater) Psychiatry 10-11 Gynecology (Surgical Amphitheater) 12 Clinic Sir Wm. Osler	9:30-11 Surgery (Surgical Amphitheater) 9-11 Medical Visits 11-1 Medical Laboratories	Pathology (Medical Amphitheater) Obstetrics (Surgical Lecture Room) 10-12 Urological Surgery (Surgical Amphitheater)
	Lunch	Lunch	Lunch
Opening Meeting (The Lyric) Addresses: Dr. W. H. Welch presiding Sir Wm. Osler Dr. H. M. Hurd Miss M. A. Nutting	2:30 Pediatric Wards Dr. Howland 3:30 Dedication Hewetson Medallion 4:30 Herter Lecture 5 Ladies' Garden Party	3:30 Dedication of the J. B. Brady Urological Clinic Dr. W. H. Smith presiding Pres. F. J. Goodnow Dr. H. H. Young and other speakers	4:30 Herter Lecture
5 Garden Party Johns Hopkins Hospital Lawn		Dinner to Mr. J. B. Brady, donor of the new Urological Clinic	Class Dinners
Dinners Johns Hopkins Hospital Alumni Nurses	Dinner Alumni of Medical School	Class Dinners	

Report of the British Insurance Commission.

The second annual report of the British National Insurance Commission, recently issued, gives some interesting figures showing the magnitude of the personnel embraced under the law, and the gradual increase in the number of "panel doctors," notwithstanding the uncompromising attitude of the medical profession, as a whole, regarding this form of service.

There were on January 15, 1913, 13,996 medical men on the panel; April 14, 15,659; October 13, 15,870; May 31, 1914, 16,059.

The approved societies are stated to have 10,533,220 members, of whom the "friendly societies" contributed 4,856,584. Of this total, the industrial insurance companies accounted for 3,759,396 and the trades unions for 1,154,484; collecting societies contributed 663,659 members, and employers' provident funds had 99,097 insured persons on their lists.

The commission reports that, so far as it can judge, the medical profession is living up to the confidence reposed in it by Parliament in leaving the members certain discretionary powers in the matter of attendance and fees.

CURRENT HOSPITAL LITERATURE

Albert Allemann, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General
U. S. Army.

Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General
U. S. Army.

Ship School Sanatorium for Children Predisposed to Tuberculosis (Una nave scuola sanatorio per fanciulli predisposti). Tubercolosi, Milano, 1914, VI, No. 4.

The commission in charge of the summer colonies for poor school children in Rome who are predisposed to tuberculosis is about to establish a permanent ship sanatorium for these children. The ship is intended to serve as a school and as a sanatorium. A number of prominent physicians have been consulted on this matter, and the answers have been favorable throughout. A ship furnished by the Government will soon be fitted out for this purpose. A considerable sum has already been collected to cover the expenses.

Construction and Managing Costs of Municipal Hospitals (Bau und Betriebskosten kommunaler Krankenanstalten). Bockendahl. Heilanstalt, Leipzig, 1914, IX, No. 12.

The present tendency to reduce the construction costs of hospitals is justified. But the increased expenses in the construction of hospitals are not only due to a lavish use of money in fitting out such institutions, but are partly justified by the increased demands of the patients regarding comfort. Besides, the hospital has ceased being merely a place favoring a cure, and is now itself an important factor in the cure of disease. The costs of construction can be reduced only by establishing less expensive divisions for patients who are convalescing from acute diseases, or who are suffering from diseases which do not require the expensive curative apparatuses of a modern hospital. The managing expenses can be reduced by demanding higher rates from the patient or from the sickness insurance associations. Low rates in municipal hospitals should, in the interest of the community and that of the physicians, not be permitted.

Combating Street Dust in the Neighborhood of Hospitals (Die Bekämpfung des Strassenstaubes im Bereiche der Krankenhäuser). Am Ende Heilanstalt, Leipzig, 1914, IX, No. 13.

Dust is harmful to healthy persons, but in a much higher degree to weak and sick people. It is therefore of great importance that courts, roads, streets, and public places near hospitals be kept free from dust as far as it is possible to do so. It is the duty of the hospital authorities to prevent, as much as possible, the dust from penetrating into the sick rooms. In the new city hospital at Dresden all pipes and tubings are hidden in the walls to prevent dust from settling on them. Many methods have been recommended to prevent dust accumulations on roads and streets. Coal tar is an excellent material, but

it is expensive and not durable. A new preparation has lately been put on the market which is superior to anything heretofore known in the way of dust prevention. This new preparation is called "apokonin." It has been extensively used in Germany and given general satisfaction. It is odorless and not soluble in water. It produces such a close cohesion between the dust or earthly particles that a surface treated with apokonin is completely watertight. This preparation is especially recommended for courtyards, roads, streets, and public places near large hospitals.

The King Humbert Dispensary in Rome (Il dispensario Re Umberto in Roma). Marchiafava. Tubercolosi, Milano, 1914, VI, No. 6.

The King Humbert Dispensary for tuberculous patients was founded by the widow of the late king, and is the first institution of its kind in Rome. It is located on the southern slope of the Janiculum Hill, and is surrounded by beautiful gardens and parks. Great attention is paid to the maintenance of hygienic principles. Each patient is provided with a cuspidor, and no one is permitted to expectorate on the floors, walks, gardens, etc. On the walls of the rooms the principles of hygiene are written in large letters. The hospital is visited daily by a number of the most prominent physicians of Rome. The dispensary stands in close connection with other charitable institutions for the tuberculous. Patients in the advanced stage of tuberculosis are sent to the general hospital, those with incipient tuberculosis are transferred to sanatoriums, especially to the one at Leghorn, and children of tuberculous patients are placed in the Regina Elena colony or in summer colonies on the sea coast or in the mountains. To combat tuberculosis efficiently, the author holds that an educational campaign concerning tuberculosis is of highest importance. The people should know the cause and prevention of tuberculosis; they should know that the sputum carries the contagium, and that the sunlight kills the germs.

Simple but Important Things Often Badly Done. L. W. Littig. Jour. Iowa Med. Soc., Washington, 1914, IV, 46.

The writer calls attention to errors often found in hospitals. That instruments should be boiled, not steamed, in a carbonate of soda solution. Gloves should be laid flat and straight, with the cuffs turned back, and sterilized ten to fifteen minutes in a pressure sterilizer at fifteen pounds; if boiled, to be filled with water, wrapped in a towel, and completely submerged; if not steam sterilized, they should be filled with water and completely submerged; when gloves are mended, the patch should always be placed on the inside, indicated by the number and the hem. Rubber gloves being made over a form, the hem and number are put on last, and consequently the band and number indicate the outside; the patch of the mended glove is therefore to correspond to the hem and number of the glove. If gloves are put on dry, both hand and inside of the glove should be well powdered, and the glove put on with hand held upward to prevent excess of powder collecting at finger tips. He claims fifteen to twenty minutes is too short a time to sterilize a large amount of material. He uses the Bramhall Deane pressure sterilizer at fifteen pounds pressure for two hours and one hour to dry. In a hospital nothing less than one hour should be accepted. The care and preparation of the hands, as well as the patient, are considered. He advocates careful observance of the respiration to be noted by the nurse on record sheet. He believes in having operations in a hospital bulletined, that every member of the hospital staff or physician who has the privilege of the hospital should

be given the opportunity of being present. The success of hospitals in which such a custom has prevailed is proof of the general consent of its patients. By such practice in our hospitals the outcome will be better surgeons and better surgery.

The Late Official Regulations Concerning Hospital Construction and the Question of Building Expenses (Die neueren amtlichen Vorschriften für Krankenhausbauen und die Baukostenfrage). Winterstein. Deutsche med. Wehnschr. Berlin, 1914, XL, No. 17.

In 1912 the Prussian ministry published new regulations concerning hospital construction. These regulations make very high demands regarding hygienic principles, and the author thinks that they are to a great extent responsible for the increased costs of the new hospitals. The regulations require building grounds of 100 square meters per bed, but Winterstein thinks that 50 square meters is amply sufficient for smaller hospitals. Larger institutions require more space on account of the numerous buildings, streets, etc. Thus the Virchow Hospital has 128 square meters per bed, but, if the one-story buildings were raised to two stories, the space per bed would be reduced to 86 square meters, which would still be ample space; 60 square meters is therefore all sufficient. The economy buildings could be placed around a closed court. The management would thus be facilitated and building expenses would be reduced. But the regulations do not permit such an arrangement. It is likewise forbidden to place sick rooms on the north side of a building, which is a very onerous rule, especially for large hospitals. The requirements concerning stairways are also excessive. Much money could be saved here, especially with regard to those stairways which are not used by the patients.

The Question of Dietary Reform in Hospitals (Zur Frage der Diätreform in Krankenhäusern). H. Strauss. Zeitschr. f. phys. u. diät. Therap., Leipzig, 1914, XVIII, No. 6.

The treatment of diseases by diet has made great progress in the last twenty or thirty years, and the hospitals were compelled to keep step with the new discoveries. But in most hospitals the usual diet was only changed for a few diseases which require a special diet. If we examine the diet lists of many hospitals, we find that there is not enough diversity of foods, and there is a considerable lack of suitable vegetables and finer kinds of meats. In many hospitals cream, fruit, stewed fruits, etc., are not furnished at all, or only in insufficient quantities. As a remedy for these unsatisfactory conditions, many large hospitals have recently established so-called diet kitchens in connection with the central kitchen. This causes, of course, greater expenses, and a suitable personnel for such diet kitchens is not easily found, but the hospitals are more and more recognizing the good results of dietary therapeutics and will readily grant the necessary means for these reforms. But for smaller hospitals it is not at all necessary to establish special diet kitchens, as it is only a question of management and organization. The following changes in the present arrangement seem to be necessary: (1) a diet list should be made in advance for each week and for each day in the week, by which the assistant physicians fix the daily diet for each patient; (2) the finer kinds of meats, suitable vegetables, and all such foods which are indicated for weak digestive organs, ought to predominate; (3) in certain diseases—as, for instance, in ulcer of the stomach—the physician should be allowed to select any food he deems necessary. What we need, however, are physicians who have a full knowledge

of dietetics. Many assistant physicians are wanting in this respect, and the physicians-in-chief have not the time to watch the dietary details of each patient. Our young physicians have indeed greatly improved in this respect, but the knowledge of the calorie contents, of the various components of foods, the knowledge of the physiology and pathology of nutrition, is here not sufficient; a certain elementary knowledge of the technic respectively of the physics and chemistry of the kitchen is absolutely necessary. The nurses, too, must be better versed in dietetic questions. America is far ahead of us in this respect. In the hospital of the Post-graduate School in New York I found that the nurses are not only able to prepare the most complicated foods, but they can fill all the demands of the physician with regard to calories, albumen, fat, and carbohydrate contents of the foods. At the Presbyterian Hospital in Chicago the nurses receive in six to eight weeks full instructions regarding food materials and their importance in nutrition. They are also expected to visit markets, bakeries, and factories of food materials.

La maison de santé protestante de Bordeaux (The Protestant Hospital at Bordeaux). Jour. de méd. de Bordeaux, 1914, LXXXV, No. 18.

The Protestant Hospital at Bordeaux was founded in 1863. A number of additions were made to the old building, which was used as a hospital. In 1896 an entirely new structure was erected in place of the old one. This hospital receives poor patients of the Protestant persuasion of both sexes without pay. Patients with means have to pay 3 francs per day (75 cents), but are placed in separate rooms. On the first floor the hospital carries on a free dispensary service in thirteen specialties. In 1913 no less than 11,295 patients were treated at this dispensary. The hospital has 77 beds in all; 15,730 patients have been treated at this hospital since its foundation to the present time. The surgical division has a fine operating room, receiving its light from above and from one side. The lying-in division is in the second story of the main building. It was opened in 1903, and 147 women of the poorer classes have been delivered since that time. Besides the hospital work, this institution sends out visiting nurses, who visit and attend poor patients at their homes. During 1913 no less than 495 patients were cared for in this manner. The hospital also carries on a nurses' school, and after a course of two years a nurse receives a diploma. The institution is supported in various ways; the city pays an annual contribution, but the greater portion of the money is obtained from charitable people.

The relief ship equipped by the American Red Cross left New York Harbor September 12 with an army of nurses and surgeons for European ports. Major Robert Hugh Patterson was in command and Miss Helen Scott Hay directing head of the nurses. Among the supplies carried by the ship were 400,000 pounds of cotton, absorbent and nonabsorbent, 300,000 yards of gauze, 15,000 pounds of bandages, and 50,000 yards of starched gauze. There were eight complete surgical equipments and thousands of gallons of iodine and cases of ether. Each nurse signed a promise to stay six months. If any returns sooner, she must pay her own expenses. In the event that the war lasts longer than six months, all who desire will be returned and others sent in their places. Units will be sent to all of the nations at war.

Miss Von der Au, superintendent of the Americus (Ga.) Hospital, has resigned and returned to Atlanta, her home. The local press speaks highly of Miss Von der Au's work in the Americus Hospital, and says that she leaves the institution much to the regret of the association. Miss Breen, a nurse in the hospital, has assumed charge.

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The Protestant Hospital at Bordeaux (La maison de santé protestante de Bordeaux). Journ. de méd. de Bordeaux, 1914, XLIV, No. 18.

Sanatorium Budget of Fun.

"The man worth while is the one who greets you with a smile when the T. B.'s begin to sting." This is the motto, or slogan, of the *Sunflower Magazine*, which makes its appearance "every little while" at the Cincinnati Tuberculosis Sanatorium, known also as the "Branch Hospital." The magazine is the work of one of the patients at the institution, and shows evidences of considerable literary talent. It is a four-page affair, page size 8½x11, with letter-press heading, the rest being printed on a mimeograph. The matter which fills its columns is mainly of a character calculated to dispel the blues. In addition to "Hospital Chatter" and miscellaneous contributions, a department of "Free Medical Advice" is maintained. Here are a few paragraphs culled from a copy recently received by the news editor of THE MODERN HOSPITAL:

"Miss Glass is not very transparent."

"They say the nurses are sore because the chickens had their home built first."

"Some one asked 'Cigarets' what was the matter with him. He answered, 'Two Buckle Osis.'"

"Dan Whalen dropped into a mission on Third street. Some one got up and asked, 'Where is my wandering boy tonight?' Dan replied, 'I think he is in the Branch Hospital.'"

"Downey says that one evening when he was up in Iceland he went to see his best girl, an Eskimo. It happened to be the season when the night lasted six months. Downey had a lot to tell his girl and kept no account of the time. During one of his impassioned perorations the girl's dad appeared on the scene and wanted to know if the

young swain was ever going to depart. Downey then looked at his watch and was astonished to discover that he had been there 720 hours."

Under "Free Medical Advice" it is stated that Dr. Mud will answer all questions pertaining to the health of the patient, but will not interpret dreams. These are some of the queries and answers:

"Dear Doctor: How can I keep my toes from sleeping?" Answer: "Don't let them turn in."

"Dear Doctor: Am getting childish, though only forty—Miss Demeanor." Answer: "There is no cure; you will have to let it run its course."

It is said that the patients look for each number of the magazine with eagerness and enjoy it heartily.

Epidemic Gonorrhea in Hospitals.

In view of the seriousness of this problem, the department of health in New York City inaugurated several years ago bacteriological and clinical investigations to determine, as far as possible, the prevalence of gonorrhea and to inaugurate measures to prevent its spread through the wards. The following routine is now observed in the hospitals of the department of health:

Material for bacteriological examinations is taken from every female patient on admission to the hospital, and sent to the research laboratory of the department of health, from which a written report is made to the resident physician on the following day. Patients without clinical evidence of the disease are immediately sent to "clean" wards, others to "observation" wards to await the result of the laboratory examination. If the latter shows the undoubted presence of the disease, the patients are immediately transferred to special wards for infected cases, to remain during their entire stay in the hospital. Observation cases are frequently found to have the disease in the latent form, and for this reason they are also kept throughout their stay in the wards separate from the undoubted cases and also from the uninfected cases. Those cases in which a latent form of the disease lights up are immediately transferred to the infected wards, as are also those who develop the disease in the hospital.

The Two Cots.¹

BY C. CHESTON.

Mothers! whom closer ties forbid to roam
In search of sorrows ye would fain assuage,
Whose love finds fitting duties nearer home,
Think on the war with grief that women wage!
And, as your happy children round your knee
(The sweetest picture to your loving eye)
Laugh at a fairy tale in happy glee,
Unconscious of their fellows' misery;
Teach their young hearts to feel another's grief,
Show them the purest joy they e'er can know
Is found in giving comfort and relief
To those condemned to poverty and woe,
Tell them the rose that blooms upon the hedge
Is cousin to the cultured hot-house flower;
Want is no crime, sickness no sacrilege,
That we should blame the paupers of the hour.
One power made us all, each nurtures some
In peaceful indolence to spend their time;
Want stifles others, till in time they come
From youth neglected to an age of crime.
Each waif that struggles on its sordid path
Hath yet a spark of nobleness within;
Seize it, and turn it from the coming wrath
That waits upon a life of shame and sin.
And for the sick ones: help the skillful band
Of girls who labor in our Shadwell wards;
Their hero lives your sympathy commands;
The work their strength is spent in is the Lord's.

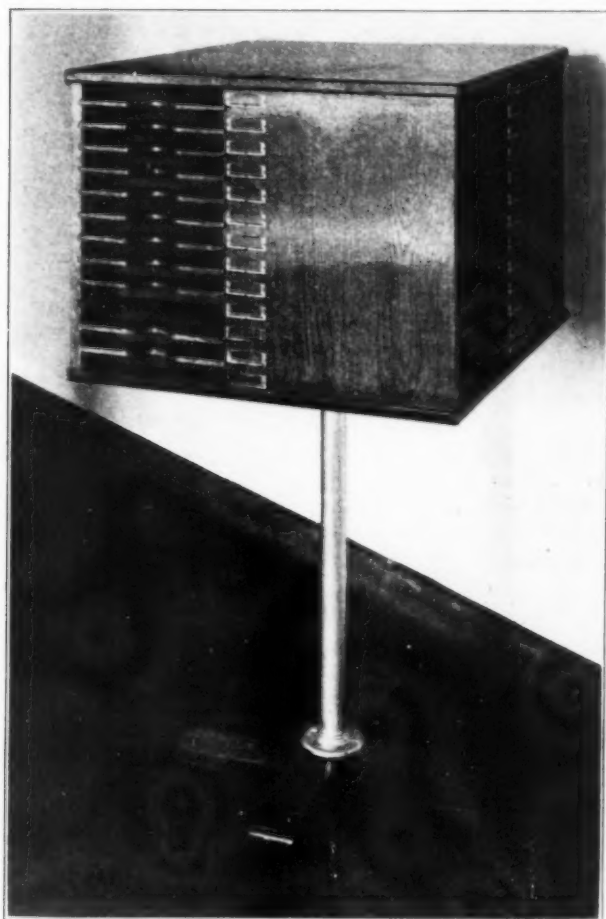
¹Abstract from an old number of "Voluntaries for an East London Hospital." Selected by F. B. Martin.



A Revolving Chart Rack.

DESIGNED BY EDWARD F. STEVENS, HOSPITAL ARCHITECT, BOSTON, FOR THE OHIO VALLEY GENERAL HOSPITAL, WHEELING, WEST VIRGINIA.

This chart rack is a very simple affair, as may be seen from the accompanying picture. It is made to hold fifty-two charts. It is 24x24 inches across the top, the space between each shelf is 1½ inches, and the height over all is 46 inches. The wood used in the construction is white oak, finished natural color. The standard is a 2-inch pipe, 42 inches long, with pointed top, on which a steel plate rests, thereby providing a very free-working bearing. The



Revolving chart rack.

bottom of this standard is made fast to the legs or cross pieces by a simple flange. The legs are fitted with ball-bearing casters. Card holders are provided for the name of patient, service, and room or bed number.

The advantage of the revolving chart rack is that many charts may be kept in a very small space, and handled in a

very convenient manner by one sitting at the desk. The top of the chart rack may also be used as a writing desk by one standing. The whole is so light that it may be easily moved about by the maid when cleaning.

Decorative Quiet Zone Sign.

In nearly all communities the law provides for "quiet zones" within a certain distance of hospitals. The signs indicating these quiet zones are not always artistic or decorative. Mr. Bacon, of the Presbyterian Hospital, Chicago, has devised a scheme that will relieve the ugliness of a sign in the neighborhood of a hospital. The illustration shows it.



Bacon's decorative "quiet zone" sign.

The sign itself is not pretty, but Mr. Bacon's idea is to set a box of growing flowers behind it, with draping vines as a part of its contents. Where the sign faces both ways, the flowers can be set in a box between two signs. Mr. Bacon hopes that next year he can obtain a much more luxurious growth of his potted things, and that the effect will be attractive.

Feeding War Prisoners.

The British War Office has published the daily ration that it expects to give to prisoners of war, as follows: Bread, 1½ pounds, or biscuits, 1 pound; fresh or frozen meat, 8 ounces, or preserved meat, half ration; fresh vegetables, 8 ounces; butter or margarine, 1 ounce; condensed milk, 1-20th of 1-pound tin; tea, ½ ounce, or coffee, 1 ounce; sugar, 2 ounces; salt, ½ ounce.

Substantial improvements are being made at the Florida East Coast Railway Hospital at St. Augustine, Fla. The operating room and sun parlor section has been cut completely loose from the main building and moved east twenty-four feet. In this space, and connecting the removed section with the main structure, will be erected a three-story addition corresponding in architecture to the front of the existing building. The first floor of this addition will be utilized to provide more consulting room and waiting room space. On this floor will be also a special x-ray room. The second floor will be arranged for bed rooms and linen closets. The third floor will be made into a large recreation hall and lecture hall for the nurses. Opening on this room will be a spacious veranda out over the roof of the operating room. Dr. Murray W. Seagears is the chief surgeon of this hospital.



Conversion of Mattress Into Litter for Use in Case of Fire.

FREDERIC A. WASHBURN, ADMINISTRATOR MASSACHUSETTS GENERAL HOSPITAL.

A simple expedient has been adopted at the Massachusetts General Hospital for converting into a stretcher the mattress upon which the patient lies. The object is to provide a method of emptying the ward in case of fire

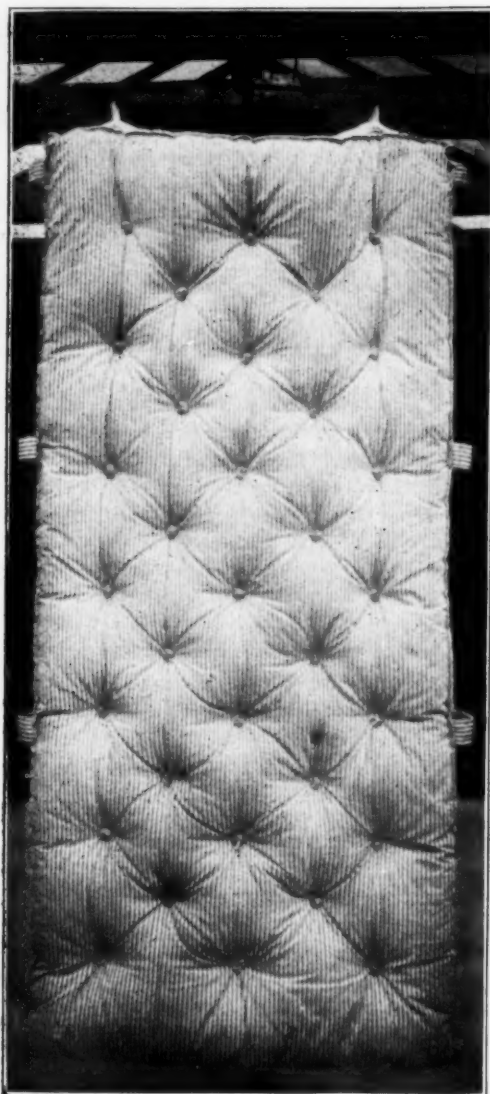


Fig. 1. Shows loops for poles.

as expeditiously as possible and with little inconvenience to the bed patient. The mattress is provided with four loops on each side, as shown in Figs. 1 and 2. Five pairs

of poles painted red are placed outside of each twenty-bed ward, and the following sign hung near them:

To move patients from the ward, carry two poles to bed and convert mattress into stretcher by thrusting poles through four loops on either side of mattress.

The writer has permitted himself to be carried on a stretcher down two flights of hospital stairs, and knows that the experience is not an uncomfortable one. There is still further advantage in that the patient is left upon the mattress and is comfortable wherever placed. The poles are withdrawn by the bearers, who make another trip to the ward to further help in removing patients.

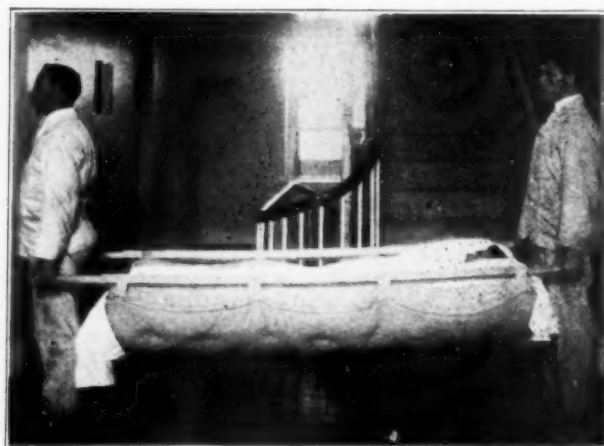


Fig. 2. Method of carrying patient.

Note the collar at the junction of the handle with the pole. The end loop goes over this collar to prevent the mattress from slipping when coming down stairs. Our mattresses are 74 inches long by 36 inches wide and the poles are 8 feet long.

This device may be used in transferring the patients from one ward to another when it is not deemed desirable to move the beds.

The Perfect Nurse—A Recipe.

Almost everyone thinks he can paint the picture of the ideal nurse. Hospital people and doctors think they have a patent on the recipe. Now comes along the *Woman's Home Companion* for October with the following picture of the perfect nurse:

"Among the things a nurse must *not* be, a few stand out prominently. She must not be untruthful in any degree whatsoever. She may sometimes be obliged to practice evasion with patients who are physically or mentally unfit to know the facts, but lying—never. She must not be 'high strung' nor nervous.

"The higher education is not essential in becoming a trained nurse, but most training schools require the applicants to have had a high-school education, though exceptions are sometimes made to this rule. While the higher branches of education are not necessary, they are always desirable, and a knowledge of one or more foreign languages is a distinct asset. To enter a training school, a girl must have good health; she must have poise, and enough tact to be able to cultivate more of it; and she must have an abundance of tolerance.

"She must be personally neat. In hospitals you learn that cleanliness comes before all else, but close after comes order.

"If a young woman has a knowledge of cooking, so much more easily will she pass her examination in dietetics; if she knows something of marketing and shopping, she will be more likely to display a disposition to economy in the handling of food and supplies; and if she is a good housekeeper, so much neater and better ordered will be her ward."

NEW INSTRUMENTS and APPLIANCES

Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

An Inexpensive Sacral Support and Hip and Leg Extension Apparatus.

DESIGNED BY DR. WALTER G. STEARN, CLEVELAND.

Few hospitals are provided with suitable extension apparatus or sacral supports for operation on the hip and thigh or for application of hip plaster casts and spicas. The comparatively high cost of special orthopedic tables or extension apparatus is the usual reason for this shortcoming.

The apparatus illustrated here has been designed so that it can be constructed by any competent steam engineer or blacksmith from parts which can be purchased from a machinist supply house. The only connections are the special table clamps made from the doctor's own patterns, but even here in an emergency small blacksmith or machinist vises will serve the purpose. The apparatus is designed to be used on any table up to four feet in height.

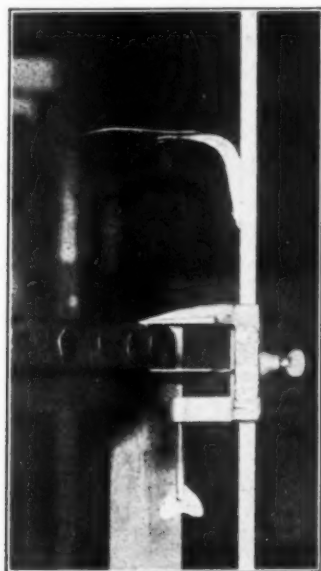


Fig. 1. Sacral support.

It will be seen from the illustration that it consists of a central table clamp, holding the sacral support, and two adjustable extension members fastened to the table with similar clamps and united at their distal end by a telescoping brace. The whole apparatus is made out of $\frac{1}{2}$ -inch galvanized iron pipe and fittings and $\frac{1}{16}$ -inch round steel rods sliding into them. The long screw, which is fitted with a crank to provide the fine adjustment of the extension, is made of a carpenter's bench vise screw, with the "T" for the handle bar cut off just beyond the collar, which is retained and fastened in its normal position for the purpose of loosely holding the swivel face plate to which the leather cuffs for extension of the extremities

are attached with harness bolt snaps. The female part of the screw is rounded off and is attached to the end of the upright bar. The coarse adjustment is made by a rod sliding into a pipe. The ends of the pipe carry thumb-screws for tightening the adjustment, and are reinforced by $\frac{1}{2}$ -inch galvanized unions. The apparatus may be taken apart and packed in a large suit case, and the weight is about twenty-five pounds.

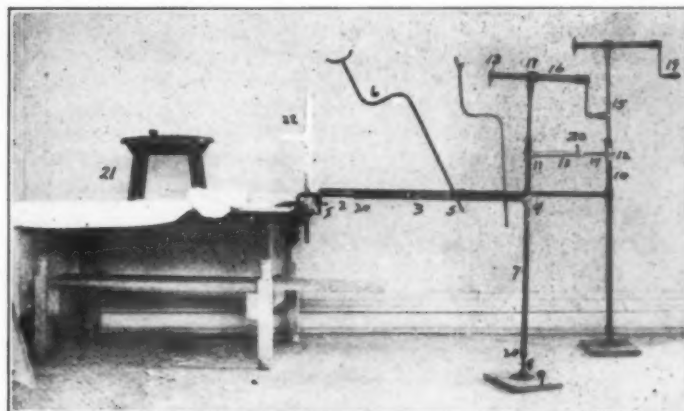


Fig. 2. Hip and leg extension apparatus.

Dr. Stearns has furnished the editor a detailed descriptions of the component parts of this simple, yet apparently efficient, support and extension apparatus, but lack of space prevents us from printing them here. We presume, however, that the doctor will be willing to supply these directions and figures to any surgeon or hospital superintendent who will apply for same.

Aorta Compression Apparatus.

BY DR. GAUSS, FREIBURG, GERMANY.

A new apparatus for instrumental compression of the aorta abdominalis, suitable especially for hospitals in obstetrical work, has been designed by Prof. Gauss, of the



Gauss' Aorta Compress.

University Hospital, Freiburg. This apparatus is to take the place of Momburg's rubber tubes and other bandages of similar nature. It is considered by some authorities that the instrumental compression of the aorta abdomi-

nalis affords a safe and effective method of stopping hemorrhage after childbirth, in contrast to the Momburg method of employing a rubber tube, which involves complete binding of the lower part of the body.

The application of this apparatus is confined to an isolated compression of the aorta abdominalis immediately above its division into the two iliac communes. This type of compression is further considered preferable to the Momburg method in view of the delicate and consequently protective regulation of pressure which can be produced. It is stated that injury to the heart, intestines, and bladder are practically impossible.

A New Bed-Pan and Excreta Sterilizer.

The bed-pan sterilizer illustrated here was exhibited and demonstrated by the manufacturers, the Wilmot Castle Company, of Rochester, N. Y., during the meeting of the American Hospital Association at St. Paul recently, and for the benefit of those superintendents who were unable to attend the meeting a description of the apparatus is given.

This new sterilizer is distinct in design, and intended only for handling bed-pans and their contents. It avoids the disagreeable task of emptying pans by hand into an

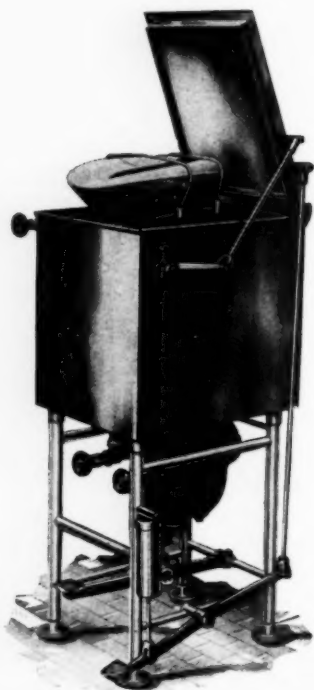


Fig. 1. Bed-pan as placed in sterilizer.

open sink or hopper. The pan is placed in the sterilizer right side up, and is then automatically inverted and emptied as the cover is closed. It is thoroughly washed inside and out by water sprays. The pan and fecal matter are positively sterilized by steam, but no odor or steam escapes into the room. The trap and cover are operated by foot pedals.

The sides and cover of the sterilizing chamber are made of heavy planished copper. The base is a smooth bronze casting, so shaped that it drains quickly. The steam chamber for heating is cast in the base, eliminating all steam pipes from the interior of the sterilizer. A 3-inch opening is provided in the back of the sterilizer for connection to a vent pipe. The entire interior is heavily coated with pure tin to prevent corrosion, and the exterior is handsomely nickel-plated. A deep lip on the cover fits into a

water seal on the body of the sterilizer, preventing the escape of steam and odors into the room. The size of the

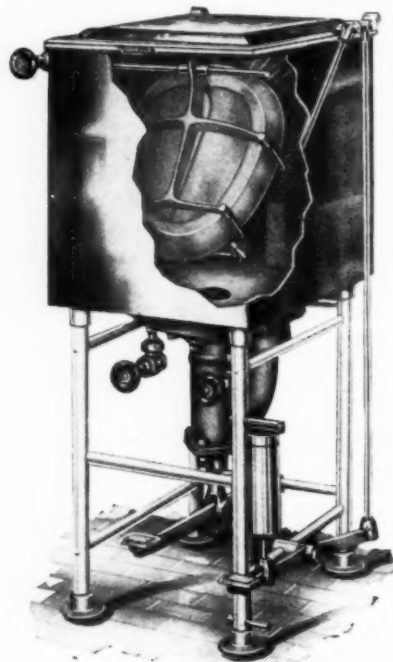


Fig. 2. Bed-pan as inverted in sterilizer.

sterilizer is 15x18x17 inches. The use of such an apparatus is now considered essential, especially in contagious wards.

Plague Work in New Orleans.

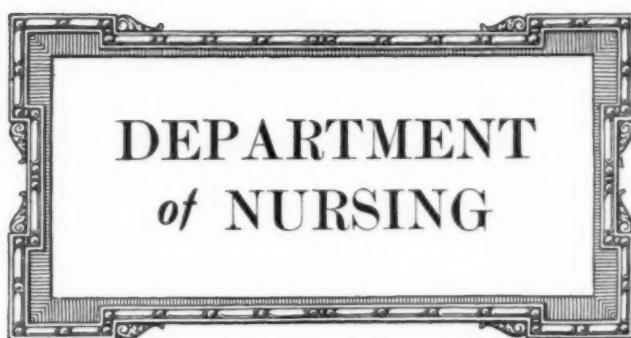
The country at large can have no adequate knowledge of the magnificent work that the Public Health Service of the Government is doing to eradicate plague from New Orleans. It may be of interest to know that since the first announcement of the plague occurred in July, the following work has been done: Fifty-nine ships have been inspected and fumigated; 25,000 tons of freight have been inspected, consisting of 202,986 packages; 3,169 cars have been inspected, of which 1,681 were rendered ratproof. The railroad freight inspected and passed was destined for forty states in the union and Canada and the District of Columbia.

The total number of rats captured to September 12 was 79,543, of which 68,595 were examined microscopically. Nearly every dwelling house, factory, hotel, hospital and miscellaneous structure has been examined carefully and rendered ratproof.

No new cases of rat plague have been found during the past week, and it is confidently expected that Assistant Surgeon General Rucker, of the department, and his associates have finally exterminated every source of infection.

It is true that Surgeon General Blue, Assistant Surgeon General Rucker, and their associates had had the experience of San Francisco and the Pacific coast in the extermination of plague, but the magnificent work that has been done and is still being done in New Orleans ought to give abundant assurance to the people of this country that the agencies of the public health are in the most capable hands that could be conceived.

The Marengo Avenue Hospital at Pasadena, Cal., is soon to have a new home. Work will be begun shortly on a \$40,000 building of brick, stone, and reinforced concrete construction.



Mary M. Riddle, R. N., Editor,
Superintendent Newton Hospital, Newton Lower Falls, Mass.

Standards and Registration.¹

BY GEORGE DOCK, M. D.,

Professor of Medicine, Washington University Medical School, St. Louis.

I have been asked to say something about nursing from the standpoint of certain problems and struggles in the study and teaching of medicine. These problems and struggles are concerned chiefly with the effort to improve both the study and practice of medicine, and, I suppose, it is hoped that our experience in medicine may be useful to you as a light or guide in your own struggles. I take great pleasure in trying to meet your wishes, encouraged by the very general suggestions made me, but I realize at the same time that, in some respects at least, I may seem to rush in where angels fear to tread.

Medical education in America has many interesting features. Its history cannot be said to be the kind described as philosophy teaching by example. Often of philosophy there has been none. Opportunism has been the key to many changes—even some advances. Many other advances can best be ascribed to huddling, a method that often seems our chief resort in America, but one that a great poet has assured us will save us in the end. We have now, happily, reached a point where clear vision and broad aims are open to us, and in our advance, no doubt, there are many things that may benefit nursing—not, I think, by blindly following, but by noting the drawbacks and benefits that have followed one or the other course of action.

No matter how objectionable the thought may be to some, medicine and nursing have much in common. Doctors in all ages have often carried out all the details of nursing. Nurses—i. e., wives, mothers, great queens, like Theodora, and a goddess, Hygeia—have done some of the things doctors do: gathered medicines and prepared them, dressed wounds and dislocations, and ministered to pain. I can remember when nurses were taught their art by men physicians—not only anatomy, bacteriology, chemistry, and materia medica, but bedmaking, changing clothing, brushing hair, and other details of the toilet.

But medicine has in that same time become more complex than before. It is a commonplace, wherever medicine is celebrated, to hear of its advances—even of its perfection. The advances have, indeed, been extraordinary. The change from ox-cart or pack animal to motor car or aeroplane is trifling compared with it, and yet those who are most deeply interested believe that progress in medicine has barely begun. These changes could not be without affecting the details of nursing and the study of nursing, but nursing has other phases. Being one of the fundamental feminine activities, it is inex-

tricably associated with many other details of that great social and economic manifestation that, for want of a better name, has been called the feminist movement. The nurse is no longer a mere maker of beds, administrator of medicine, and soother of pain, just as the doctor is no longer a maker of pills and potions. She has become the eyes and the hands of the doctor in dozens of details besides the elementary features of pulse counting, temperature taking, and medicine giving. The more learned and expert the doctor, the more can he and the patient profit from the accomplished nurse. The nurse cannot do her duty without also taking part in the essential features of the doctor's work, the prevention of disease, the conservation of health—not merely in the abstract, but in every patient cared for. Then, just as the doctor is often obliged to specialize, the nurse, too, often finds it proper or necessary to limit herself to certain lines, to perfect herself in certain details. But she cannot avoid going on to still other lines of work. From her training she becomes now a chef, a housekeeper; or manager of an asylum, sanatorium, or other great institution; a school nurse, department store nurse, fresh air camp nurse, or excursion nurse; a health inspector, factory or sweatshop inspector; milk station manager or assistant; insurance nurse; specialist in anesthesia; an x-ray or Finsen light operator; a social service expert; a charity aid or organizer; the organizer of complex and extensive movements in times of war, floods, and other calamities.

It may be worth while to linger on one or two of these points. Women, especially trained women, have often demonstrated a peculiar ability in all service requiring the highest form of order and neatness—that form of asepsis that is as essential in a store room, kitchen, or dining room, a back yard or stable, as it is in a surgical operating room. This faculty, with the training of a modern nurse, would admirably fit women for much needed positions as health inspectors in town or country. Such work will soon be demanded. Medical schools are making almost no effort for training either physicians or others in the fundamental sciences that may fit one as a sanitary inspector. There is much likelihood that engineering schools, that have in general a keen appreciation of coming demands for expert service, will prepare men for some of these positions, but they cannot train enough for an enlightened demand that must take the place of our casual work, as shown in yard cleaning, fly swatting, or antimosquito work.

A considerable amount of work is done by many doctors in making their own biological preparations, especially serums and vaccines. These cannot be made by the men who formerly made pills; the physician cannot resort to the large manufacturing pharmacist in many cases; the trained nurse, essential for other services, should attend to these—with a suitable addition to her salary. In a way there is a loss of energy in this movement. No doubt in time it will be possible to direct the education of many of the women who now go out from training schools into diverse pursuits so as to save time. But it is not easy to make the necessary modifications, any more than it is easy in medicine to enable an ophthalmologist, for example, to follow a different route for six or seven years from that followed by the general practitioner or the obstetrician. In dentistry early specialization is carried out, and it is generally recognized, I think, by those on the inside, that this has caused a serious loss and one difficult to repair. It may be asked why should the nurse be bothered with so much erudition as is included in the preparation for the careers suggested. One does not in truth need to be a

¹Read at the annual convention of the National League of Nursing Education in St. Louis, April 23-29, 1914.

trained nurse to carry on some of the simple functions of nursing, and I think it would be a mistake to try to prevent some nonprofessional work, just as I think it is a mistake to try to prevent persons who have not studied medicine from giving simple treatment to the sick.

Of course, I must hasten to point out that in each case it must be clear the functions are imperfect, rudimentary, or partial, and, unless experts are utilized when necessary, serious damage will follow.

If we accept these views of the present status of nursing, what shall we say about the proper training for nurses? Here the word standardization has been suggested to me. I would not reflect on the tenacity or determination of nurses by suggesting that high standards are difficult to achieve, but I think I can without hurting anyone's feelings point out that standards may be sought without real gain. We must ask what sort of standards we aim at. I think it cannot be denied that in medical education many have arrived at a standard of curriculum—on paper—thought to be ideal, and, strong in the faith that this had been accomplished, more important standards were overlooked. For example, standards of previous education—not on paper, but in fact; standards of fitness, physical and mental, perhaps even more important in nursing than in medicine; standards of facilities for teaching—physical facilities as well as trained teachers, enthusiastic teachers, teachers of the living words of science and not dispensers of the canned words of learning, standards that aim at ability to criticize and analyze, and not merely memorize. Again, of standards of personal development of power to think for oneself; standards that use the living patient, through the eyes of the student, rather than the embalmed "case," as seen through many eyes, in turn all more or less astigmatic or myopic, if not cataractous.

It must be admitted that in medical study a tendency to adopt cut-and-dried plans, a Chinoiserie, has been more marked than a vital method of teaching and study. Those who wish to obtain an accurate view of the present status of nursing education, and many wise suggestions on various phases of it, should read the pamphlet issued by the United States Bureau of Education (Bulletin 1912, No. 7). It would seem worthy of some great philanthropist to make a foundation under which all hospital boards and training school committees should be required to pass an examination on this work. In the following remarks I may seem to have borrowed much from it, and indeed that is unavoidable, though I have, so far as possible, spoken from convictions growing out of a rather long experience.

One of the first problems I take to be the nature and amount of education required of the candidate for the training school. It is obvious this must depend on what is required of the nurse. From what I have said of the field of the trained nurse it is clear the requirements are by no means low or simple. At the least, the nurse is the aid of the physician. The latter has taken a large part of biology as his study, and the nurse cannot cooperate with him unless she has at least some little understanding of the language of modern natural science, nor could she have the necessary knowledge of the processes in the sick man. Today we are doing all we can to increase the knowledge of disease processes among the public in general. The beginning is the golden time in the treatment of disease, and some of the greatest advances in medicine have come from letting people know the importance of paying attention to early signs. From this our knowledge of appendicitis has enabled thousands to escape dy-

ing of "inflammation of the bowels;" it has saved the early tuberculous from dying of consumption, and has done something and will do much more for cancer, to take only a few examples. Evidently the nurse must know more than in the past.

If we ask what previous preparation is necessary for nurses, it is certain that less than a high school course of the highest grade is insufficient. It should be possible to begin the essential training of the nurse at this point. In medicine it has been found easier to require a larger knowledge in order to save time in the medical school, but the results of this requirement are causing much difficulty, and it would seem well in nursing if you could insist on a lower attainment, well and honestly carried out, and build your professional education on this. This will put a serious responsibility on authorities of training schools. Just as in medicine, greater knowledge of natural sciences, of languages, or of other useful or cultural subjects will fit the candidate for more advanced work, for greater diversity of choice, and for larger responsibilities, and it would be well for the profession if women with either full college courses or with well-planned partial courses could be attracted to training schools. Such people should not demand that the training school make any allowance except for identical courses. Inward satisfaction and the certainty of larger opportunity should be sufficient reward for the greater amount of time spent.

There is an important detail touching standards—the age of admission. The high school graduate will be about 19 years of age. Few will be mature enough in mind and body to get the best results of the training at that time, and still fewer can safely run the physical risks of the training as now arranged. Broken arches, weak backs, and more serious diseases will be the consequences. In the case of those who wait some time after the high school course to enter the training school, investigation as to the occupations followed in the interim would be useful. The idle, the frivolous, the disappointed will be undesirable, but those who have successfully followed any definite career should make better pupils, fitted for higher service.

The matter of a standard curriculum is another difficulty, partly so because, just as was the case in medicine, there is no definite authority to enforce standards. Volunteer organizations can promote many good aims, but solidarity and pity will make regulations lax. In medical education one of the most salutary factors was the intercession of the Carnegie Foundation, chiefly, I think, because it had no personal interests or prejudices, and it would be most beneficial for nursing if it could have some such general and nonpartisan guide and critic. The standard curriculum, I think, should be a minimum one, not only for the benefit of the weakest schools admitted, but in order to provide elasticity and the best arrangement for individual work. Moreover, anything else will lead to dishonesty and to ultimate disappointment on account of inevitable administrative difficulties.

For a long time there must be many grades of training schools—from those in strong universities, with well-managed hospitals and good teaching corps, down to some that need not be described. In medicine, schools of many grades are admitted to standard rank, particularly so before boards of examiners; and I imagine nursing schools will have the same experience as state licensure becomes more widely adopted.

One thing that long retarded the elevation of medical teaching was the multiplication of schools. The situation in nursing is now the same, and much more is concerned here than the difficulty of raising standards. In many

training schools, I believe, a method of teaching is followed that has long been abandoned in medical schools. I refer to the custom of taking the practical or clinical training first, or from the first, and the scientific or theoretical part—that is, the study of principles—later, often incidentally. It is probably not necessary, certainly not profitable, to refer to the fact that many training schools are managed chiefly for the benefit of the hospital, a feature that makes impossible a close comparison with medical schools. The difference has not always been so clear. Many training schools began, as many medical schools began, because there was a demand for teaching. As the states made no effort to provide medical schools, as the universities either wholly neglected the medical departments they had, or even cut them off, the organizers of proprietary medical schools cannot be censured as harshly as has been the custom in recent years. In training schools a similar condition developed. Hospitals needed nurses, authorities would not furnish the means of education, and, as Doctor Worcester has well said, "it was not at first recognized that the art of nursing, like every other art, can really be taught only by a master of the art, and that masters themselves must have had thorough training."

In the improvement of teaching, it seems to me, this feature should be worked at from the earliest possible time. For the practical work, multiplication of schools is not undesirable. On the contrary, the teaching must be either individual or applied to small groups. For the more scientific branches, even if teaching may be necessary in small groups, it will be difficult to find many suitable teachers. Some training schools, those connected with universities, can get them more readily than others, and it seems to me that the same teachers could with advantage teach the nurses from several hospitals. Such co-operative teaching could be applied even to the practical work, so that special hospitals could not longer be able to turn out nurses with the same kind of diploma given to those of broader training. Here, I think, must be one of the chief objects of standardization in the near future, and thoughtful organization is certain to produce notable improvements.

From the admirable work of Miss Nutting, it is plain that much has yet to be accomplished in revising working schedules. There is a remarkable contrast to medicine in this respect. For several years we have been cutting down hours of work so that, instead of spending twelve or thirteen hours a day in the medical school, an average of less than six hours a day has been reached. This, of course, presupposes some work outside of the school, but by no means as much as formerly. The reason for this change is to be found partly in the desire on the part of medical teachers to have medical students do independent work and independent thinking. Part of it, perhaps, reflects a widespread change in methods of teaching in general, a change that is associated with the disuse of the rod in the earlier classes, and that has been attributed to a different phase of the feminist movement, spoken of as the effeminization of the schools.

I have sometimes thought that one reason for the superiority of nurses in training exhibit to or with difficulty conceal from medical students depends on the fact that the former work from ten to twelve hours a day at distinctly arduous tasks, and then have to attend a class.

On the subject of long hours, Miss Nutting again should be carefully read.

In many medical schools the change from didactic to practical methods of teaching has been made without taking into account the need of many more teachers in order

to instruct beginners in technics. Faulty methods can often be observed as a result. In nursing, also, I imagine the beginner often has to blunder along, without the advantage of seeing how an expert does various things. More trained workers, not necessarily class teachers, are desirable from this standpoint.

One of the finest things in nursing, in one way, but one of the most questionable in another, is the manner in which pupils have gone on for months or years repeating a routine no longer educative. Many have felt this, though perhaps few could have expressed it as well as Kipling's heroine: "She had not expected the path she had set before her to bloom with ease; but at the end of her first month she could have laughed bitterly at the difference between her consecrating dream and the fact. The dream looked to her vocation; the fact took no account of it. She had hoped to befriend misery, to bring help and healing to pain from the first day of her apprenticeship. What she was actually set to do was to scald babies' nursing bottles."

Medical students in hospitals, when learning by doing, often feel that they are set to doing too many menial things. They often fail to see the need of converting the conscious into the unconscious in the performance of a manipulation, or the wide educational value of repetition. Here, and I dare say in nursing, repetition and monotony of occupation can be carried too far, and they should be guarded against in training schools by a sufficient number of pupils, a sufficiently rapid change of duty, and a broader outlook on the reasons for doing things. I imagine that to the uninstructed mind the taking and charting of temperatures is almost as monotonous as sewing buttonholes at so much a hundred. To the initiated it should be each time as interesting as the unfolding of a rose.

In the need of greater space for patients and for laboratories, training schools have rarely kept pace with the needs of the time. I do not advocate elaborate homes. In fact, I think that, as the training school takes the place of the nunnery of former times, monastic simplicity should be the guiding spirit, with no effort at the curio-shop effect in private rooms so dear to the college student. But at a time when factories and department stores find it profitable to have rest rooms, reading rooms, tea rooms, swimming pools and in- and out-door gymnasiums for their employees, it would seem worth while for training schools to take the hint. Greater efficiency in both study and nursing would certainly follow; the improvement in health would pay the institution during the nurse's pupilage and add immensely to her value in after years.

I have been asked to say something also about registration and reciprocity, regarding both of which subjects, in medicine, many books might be written. Instead of trying to speak at length, however, I shall limit myself to a brief review of some salient features.

Perhaps no one would attempt to argue against the propriety of testing the fitness of those who wish to practice any calling involving the responsibility of lives and property. Incidental to such a test a formal register, recording the data, would seem equally desirable. Nevertheless, it is remarkable how long it has taken to obtain acceptance of the theory, and we still lack a rational carrying out of details. The reasons for this are not far to seek. They apply not only to medicine and nursing, but to many other important matters, such as divorce laws, contract and child labor laws, testamentary provision, pure food traffic, age of consent, woman suffrage, transportation, and other public utilities. This

state of affairs is due to a fundamental peculiarity of our institutions, one that could not be imagined when the constitution was adopted—when New York and St. Louis were further apart than St. Louis and South Africa now. Of course, it has no object at present, except the preservation of the belief in states rights, that is as useless now as a powdered wig. No doubt in time some way will be found to do away with this archaic state of affairs, but registration for nurses cannot wait until that time.

It is not likely that laws for the registration of nurses will encounter even a fraction of the opposition met by those who worked for registration of medical practitioners. In the beginning, no matter how reasonable the proposed laws, violent or insidious opposition developed, and the laws as passed represented compromises. In some cases the compromises were so dangerous that it would have been better for the community and the medical profession if the effort to pass the law had failed completely. The laws were unduly lax, allowed too wide a range for admission, or had other vital defects. I do not suppose that in the case of laws for the registration of nurses the opposition will be so active or so manifold, but doubtless there will be some opposition. Two particular features may be expected—one, the opposition of certain "interests;" the other, the wolf cry of "trades unionism." The latter, I imagine, you will have to meet more than the former, which in the case of medical laws included all the forces that profit by a low state of medical practice and a lax administration of sanitary laws—the great mass of purely mercenary practitioners, the "patent medicine" makers, and the beneficiaries of these groups.

One of the greatest difficulties has not yet been overcome, even in states in which enlightened public opinion has improved the laws in other respects. While medicine has become more exact and medical schools have reached a point where the teaching is largely practical and technical, examinations for licensure, with few exceptions, adhere to medieval methods that have been abandoned even in China, the last stronghold of formalism.

As regards reciprocity, unforeseen results grew out of our laws, so that it is difficult for men of standing in one state to acquire the right to practice in another. Curiously enough, the most exclusive states are sometimes those most plagued by unqualified practitioners of every kind, so that the general population suffers as well as the individual physician, who, for excellent reasons, may wish to move. I can see how a parallel state of affairs in nursing may be even more unfortunate than in medicine. Migration is desirable in order to raise the level of distant or isolated training schools; not only superintendents, but subordinate nurses will often be desired in the very states in which the trouble and expense of reregistration will be prohibitory. It is to be hoped that with the abundant experience of the allied profession you will escape the more awkward features of some of our registration laws, and secure the passage of laws that will benefit everyone and work hardship to no one.

"It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm. It is quite necessary, nevertheless, to lay down such a principle, because the actual mortality in hospitals, especially in those of large, crowded cities, is very much higher than any calculation founded on the mortality of the same class of diseases among patients treated out of hospitals would lead us to expect."—Cook's *Life of Florence Nightingale*.

Demand and Supply as Related to Nurses and Nursing.¹

BY FRED. S. MURPHY.

Professor of Surgery, Washington University Medical School, St. Louis.

In order to consider this problem of education of nurses intelligently we must analyze two factors—first, the demands made on the nursing profession, and, second, the means of meeting these demands. Under the latter heading we shall have to consider educational as well as physical means, or, it might be put, method and material.

The great demand of today is, as in ages past and as it always will be, the demand of service. We are prone to consider nursing as beginning at Kaiserwerth with good Pastor Fliedner in 1836. That was only the beginning of our conception of the modern trained nurse. Fabiola and Flacilla, fine Roman matrons of the fourth century, and numberless devoted sisters, had served, in so far as they were able, the sick; and doubtless Deborah, Rebecca's nurse, who "died and was buried beneath Bethel under an oak," attended her mistress with care and tenderness.

We do well to emphasize this demand of service. It has been, with the profession of nursing as with the medical profession, perhaps the greatest factor in preserving the highest ideals, for to render service to the sick is the first essential of both professions. Service, however, is too often interpreted to mean only manual care and sacrifice of self. Both are necessary, to be sure, but we must remember that the development of science has altered materially the possibilities of service. War and religion, the earlier compelling forces, offered and required primarily a manual type of service. Science demands, in addition, mental training. Walter Reed served humanity in a much more effective manner by his experiments with yellow fever than dear old Dr. McLaren in his care of the Highland folk; yet Reed sat by no bedside in the attitude of Watt's physician, with whom many of you are familiar.

So it is with nurses and their possibilities. The requirements of their service can no longer be considered as simply manual. It is far from my intention to decry the need for kindly and sympathetic manual service; in fact, you will remember that service—to serve the sick—was given as the first essential of nursing; but I would emphasize that there are other ways of helping the sick—that modern development has built on the great fundamental principle and has opened up new avenues of activity for the nurse no less essential than personal care. Not long since, to become a nurse meant actual bedside care in private or individual work, or the rare teaching or administrative position. Today, while the demand for actual nursing service is perhaps greater than ever before, the possibility of work in other fields has developed in a most remarkable way. As representing these new possibilities—in fact, they are demands made on the nurse by an insistent public—may be mentioned specialized work in the administration of institutions, work in the technical supervision of laboratories, work as assistants and supervisors in operating rooms, work as anesthetists, work as administrators of milk stations and public charities; school nursing, house visiting, social service work in general, and so I might go on almost indefinitely.

In short, besides requiring of the nurse a high degree of technical skill and intelligence in the actual care of patients and as assistant of the doctor, she is being asked to give material and efficient assistance in every health and social problem. This does not mean that every nurse would be qualified or equipped to undertake the special work, any more than it can be assumed that every medical

¹Read at the annual convention of the National League of Nursing Education in St. Louis, April 23-29, 1914.

student will become a specialist. To most of you, as to most of us, general work will be the more attractive, and, with nurses as with doctors, general practice, if I may use the term, will and should be the goal, than which there is none other more noble or more essential. But to hold that the demands made on the nurse of today contemplate only manual training, or, if combined with mental training, mental training of a very superficial character, is to fail to appreciate what nurses are doing and what the public and doctors are asking them to do.

To follow our general scheme, let us now consider the means of meeting these demands. First, the physical means. Henley, in those wonderful verses in which he paints hospital life in the old Edinburgh Infirmary, gives us the picture of the staff nurse, old style:

"With her broad Scot's tongue that flatters, scolds, defies;
The thick Scot's wit that fells you like a mace."

But hastens to add—

"Patients and students hold her very dear;
They say the chief is half afraid of her."

And in contrast paints the staff nurse, new style, as one

"Kindly and calm, patrician to the last,
Who knows that she has exceedingly pretty hands,
And speaks Latin with a right accentuation."

Different types distinctly, but both essentially fine; both women who have labored long that they might better be able to render service to the sick. So today we see the widest possible variations, influenced by community or sectional feeling, by the demands and possibilities of service, representatives from every self-respecting, hard-working stratum of society—a physical material which has perhaps been lessened by inherent weaknesses in the method of training, by limitations in the possibilities of service, but, so long as there be women, there must always be a large number who will feel more than any other call this call to nurse. It is an inherent feminine trait. To repress it is possible; to obliterate it, impossible.

The physical supply, then, may be said to depend on not only the demand, but the possibility of service and the method of training.

Remarkable as has been the development of systematic trained nursing since the pioneer work of Kaiserwerth and that immediately following in England under your patron saint, Florence Nightingale, we are agreed, I think, that the conditions controlling the education of a nurse have not been and are not uniformly ideal. With certain exceptions, of which none is more striking than the school at Waltham, training schools for nurses have been developed as an integral part of the service of great hospitals, even though many of the older schools were in the beginning governed by a separate board of managers and distinct from the hospitals. Grafted onto the purely commercial side of hospital life, the training of the nurse assumed of necessity a commercial aspect. She has been, and is too frequently, looked on as an asset of the hospital rather than an intelligent student serving in the work of the hospital in order to further the hospital's development as well as her own. Don't take it that I would imply that the sole idea in the minds of the governing boards of most of our institutions has been to take service and give nothing in return, for I believe that this idea is unjustly overemphasized today. The hospital had to give that which is essential in the training of the nurse—that is, patients and facilities—and if they tended too much to take what they could get in service and give too little in return by way of actual training with other than practical work, it should be looked on, as a whole, as an error in method rather than a selfish desire to get something for nothing.

Be that as it may, however, the training of the nurse has been, and still is, in my opinion, in too many quarters

looked on as distinctly manual, and the training school as a part of the hospital service rather than a department interested primarily in the education—technical though it may be—of its pupils. The mental development, if considered at all, has occupied a secondary position. Now neither extreme can be looked on, perhaps, as desirable. A nurse with an extensive theoretical training, without practical experience and tact, compares unfavorably with her coworker who has had this experience and has tact. In the best hospitals the tendency to balance better these elements of training is evidenced by the increasing number of schools which are really giving sound preliminary and theoretical training, or have affiliated with some educational institution which is prepared to give this work, and also by the addition to training school staffs of paid instructors; but too generally, still, the nurse is trained because she can give the hospital something and not because the hospital has something which it wants to give the nurse.

This idea might be further developed by referring to the abuses which have sprung up in the small specialized hospitals quite unable to offer clinical advantages which are adequate, as well as failing wholly in offering theoretical training, where requirements of admission—in fact, requirements of service, except manual detail—were quite overlooked. If these defects have existed in the past, if they are preventing today too generally the preparation of the nurse to meet the demands of the profession, what solution may be offered? It is always easier to offer destructive criticism than to offer a simple and practical way out. In considering a solution, we must, I believe, draw the line sharply between that which is possible and that which is ideal. Local conditions may prevent absolutely any attempt to develop what seems to me to be the ideal condition. Consider first that which is possible—the readjustment of existing opportunities. In order to do this, the scope of the demands on the nurse must be appreciated and the existing, well-established schools so modify their curricula and practical training as to meet these demands. Just such meetings as these are necessary to crystallize in the minds of the nurses themselves the needs for these changes—to educate the nursing body to appreciate the full possibility of today, and, while emphasizing these possibilities, to emphasize again, as always, that theoretical training, valuable as it may be, can never take the place of capable, tactful service in which self is subjugated and the needs of the patient or of the situation made the sole consideration, for trained nursing has been done many a grievous wrong by a failure to place service above self.

A demonstration of the needs and the formulation of a solution may be considered to be the first step, the step to be taken by the nurses themselves. The next step is to further educate boards of control so that they will feel a responsibility as to what they give in return for indispensable service; to educate men to appreciate the fact that the demands of today require a manual and theoretical training quite comparable, except in degree, to that of the doctor. To consider next what I would term the ideal development, I know that I am here treading on delicate ground. Tradition and precedent are not to be pushed aside lightly, for experience is a grand teacher. As I see the essentials for this development, they are, so far as the form of organization is concerned, an entity for the training school independent of direct hospital control; direction by an existing educational institution or by individuals in sympathy with and able to provide facilities for the education of the nurse as well as for purely technical training; opportunities for hospital service under conditions that

will assume the broadest and most exacting and practical training; opportunities for training outside of the hospital in the fields of public health, home visiting, and social service.

Educators are agreed that the successful development of any scheme of organization is dependent in large measure on the abilities of the teachers; so with the plan proposed. There must needs be combined administrative and technical ability of the highest type as well as ideals and visions, which consider not only the needs of today and tomorrow, but of the future. You know, I am sure, of the development of the training school in certain of western institutions, than which none is more interesting than that at the University of Minnesota, but it would be more vital, perhaps, if I tell you of the way we have attempted to solve this problem for ourselves here in Washington University, rather than to view and discuss developments elsewhere.

As isolated units, suitable for use in the education of the nurse, we have the medical school, hospitals, and dispensaries, the university, the training school, and the social service department—rather an unusual equipment, to be sure. If we fail to make use of it, the fault will be ours and yours, for the material is moldable to any degree by intelligent and insistent effort. I include you as a party in responsibility, because we must look to you, as representatives of the profession, for advice and support.

As the first step toward this new organization, we have placed the immediate control of the training school for nurses and the social service department under the hospital committee, which is composed of the heads of the clinical departments, the professor of pathology representing the laboratory subjects, and the hospital superintendent. This hospital committee is answerable to the executive faculty of the medical school, which, as any other university unit, is under the direction of the trustees of the university; that is, we have made the training school and the social service department independent units under university control, thus assuring protection from a too intensive consideration of service regardless of the return and direction by an institution primarily interested in education.

By this arrangement we have been able to supply adequate instruction by trained men and women, and laboratory work in the preparatory course, which is given in the laboratories of the medical school by the staffs of the various departments. The instruction in the nurses' home and in the hospital is given by trained nurse instructors. The department of English of the university has given various general lectures, and will, beginning with the fall term of this year, give two hours a week of systematic class work.

Two scholarships for post-graduate work have been made available, beginning with the present June class. A curriculum has been inaugurated which provides on an eight-hour day basis for a six months' preparatory period devoted to instruction in the fundamental subjects, a year of elementary ward work instruction, a year in advanced hospital work and instruction, and a six months' period for special elective training in hospital administration, special technical training, or social service work.

Our own hospital provides clinical training in medicine, surgery, and obstetrics, and the St. Louis Children's Hospital affords opportunities for nursing in all types of children's and infants' diseases. This hospital pays the university for service rendered. On moving to our new buildings, the Barnes Hospital replaces the present university hospital. This may require certain internal ad-

justments, but we believe that the fundamental ideals of control and development will in no way be altered.

Until recently our departments of training school for nurses and social service have been separate units under the immediate direction of individual heads, though both were under the direction of the same committee. On April 15 Miss Stimson was made head of the department of nursing and social service. We believe that the combination of these two departments, each to be administered by a distinct and adequate staff, will increase the efficiency of each, and make possible a development which is limited only by the opportunities of our community and our ability to meet these opportunities. Let me make it quite clear that we are not trying to combine the technical training of the nurse and the social service worker. We recognize fully that the demands of each service may require a wholly different preparation, but we are convinced that a certain amount of social service work may require elements of nursing, and that much of the nursing work might be better done if to the technical training were added the elements of the social service work. We want to supplement the one with the other wherever that may be desirable, without in any way subordinating either. We recognize that, owing to physical difficulties incident to our present location, it has not been possible to carry out in every detail all that we might have wished. For these omissions we can only express regret.

Now as to the hopes for the future. If the fundamental idea is accepted that the training of the nurse is as essentially a mental as a manual problem, then this training, just as training in any other educational line, can be best furthered as a department of a university. This we definitely plan to accomplish. Up to the present, limitation in the number of applicants, with a sufficiently extensive preliminary training to admit them on the same educational level as the university students, has prevented this. The university, however, stands ready to establish a department of health and nursing just as soon as we can conscientiously advise them that the work is here to do. With the organization of such a department, a diploma from this department, whether it represents the intensive instruction in the specialized training of the nurse or along the lines of social service, will carry with it the same distinction as a university degree given in other departments.

On such a basis the training of the nurse immediately becomes a profession. Such a training is not alone applicable and desirable for those who expect to do this as life's work, but it should offer, beyond the mere technical side, a training equal to that of the university or college as a preparation for that greatest of all duties and pleasures—homemaking.

I believe that we have in no sense seen a glorified vision of the possibilities of this development in the training of women. The demands of the day require it; the available material, we believe, will justify it. Surely, satisfying this fundamental principle of supply and demand, the result cannot but be an advance.

"At the time when Florence Nightingale was in training at Kaiserwerth, Joseph Lister was a medical student at University College. Cohn, the founder of bacteriology, was only eight years her junior. Parkes, one of the founders of modern hygiene, was almost exactly her contemporary. It was inevitable that nursing also should be developed in a scientific spirit, and no one was better qualified than Miss Nightingale to take the lead in such a movement?"—Cook's *Life of Florence Nightingale*.



Dogs as Plague Carriers.

To the Editor of THE MODERN HOSPITAL:

The communication is so easy between our city and New Orleans, where bubonic plague is said to exist, that we are just a little bit uneasy, and someone has pointed out the possibility that the dogs of this city may carry infected fleas from plague rats to human beings. Can you tell us about this?

SOUTHERN HOSPITAL SUPERINTENDENT.

We have taken the matter of your query up with the best authority in the world—namely, the Public Health Service of the Government. Dr. W. C. Rucker, assistant surgeon-general, answers the query as follows:

"With regard to your query relative to dogs as flea hosts, it may be stated that dogs do not have the plague, but they may act as the vehicle for the transference of plague fleas from plague rats to human beings. Several such instances have come under my observation. The moral is, the dog is the enemy of the rat, but he should be kept out in the yard where he can get at the rat."

We are coming to understand definitely that the dog is no household companion from a sanitary standpoint. The city of New York is now engaged, under pressure from Dr. Goldwater, health commissioner, in the passage of a law prohibiting the keeping of dogs in apartment buildings. The activities of New York are due to the immense numbers of children bitten by dogs suffering from rabies. Now we are told that dogs can easily become carriers of bubonic plague. This means that the dog as a household pet has got to go.

Obtaining Sleep in the Day Time.

To the Editor of THE MODERN HOSPITAL:

Our night nurses seem unable to obtain restful sleep in the day time. I suppose they could become accustomed to day-time sleeping and the noises of the street after awhile, but, about the time they begin to sleep, their night service is over. Nearly all our nurses lose weight during night service and become pale, and I am quite sure that it is due to their failure to obtain proper rest in the day time. What can we do about it?

D. W. N.

This is a common complaint in hospitals, and training school superintendents try different methods. Some of them allow their night nurses to sleep in the "Home," and try to keep the day nurses quiet when they are off duty. I think this is a mistake. Young women off duty should be allowed to scamper up and down stairs and through the halls, and make as much noise as young women are accustomed to do in their recreation hours.

Opaque window shades make it necessary to have the windows closed, as do also heavy draperies. It seems to me the old-fashioned Venetian shutter is the best device for accomplishing the purpose. The slats of these shutters can be made to lie snugly and yet let in plenty of fresh air. Some hospitals have these shutters in all the windows of the nurses' home, so that nurses do not have to change their rooms when they go on night duty. It seems to me

the best way is to have a group of rooms for all the night nurses, and these should be away from the home and away from noises as much as possible; but attics are not good places for night nurses, especially in the summer time, because they are too hot. Better try the Venetian shutters.

JOHN A. HORNSBY.

"Condition Book" for Hospital Office.

To the Editor of THE MODERN HOSPITAL:

I saw somewhere a form for a "condition book" for the use of the hospital office, so that the telephone girl could answer inquiries without having to call the nurse on the floor each time. Can you tell me something about the form of this book?

T. E. P.

What you saw was in the form of loose-leaf ledger sheets. It was devised for use several years ago for the Michael Reese Hospital, Chicago. The complete sheet is 11x14 inches, ruled and cross-ruled, there being eleven spaces. The first space is 2 inches wide, for the name of the patient, and each of the other spaces is $\frac{5}{8}$ inch wide, the headings being as follows: "name," "location," "good night," "poor night," "better," "not so well," "to be operated today," "operated yesterday," "seriously ill," "not seriously ill," "refer to head nurse."

The method of procedure with this book is as follows: there is a binder for each unit of the hospital. The names of all new patients are written on one of the sheets in the main office downstairs by the night clerk, and discharged patients are stricken out. These names are kept up from day to day as admissions and discharges occur. The last duty of the night nurse in the morning is to check off the spaces and tell the story of the night, as, for instance, "Betty Jones—female surgical ward; had a good night and is better this morning; she is not seriously ill." The last duty of the day nurse is to check up the book for the night.

The check marks are made in soft pencil and can be easily rubbed out, so that the book is fresh for the nurse to report on. It seems to have answered every purpose, and to have saved very much telephoning between the office and the floors.

Care of Battleship Linoleum.

To the Editor of THE MODERN HOSPITAL:

Can you tell me what is the best preparation to use on battleship linoleum as a preservative and for cleaning properties. We are just laying a considerable quantity of linoleum in our new additions, and I was wondering what preparation, if any, should be applied at once before the floors are used, and also what is the best method for routine cleaning afterward.

W. A. DAKIN,
Superintendent General Hospital, Regina, Sask.

I have had occasion recently to go through a large number of hospitals, some of which have considerable quantities of battleship linoleum, and I find that about three-fourths of all the linoleum that they have on their floors was badly laid originally, and consequently is not as satisfactory as it should be. If it isn't too late for your purpose, may I suggest to you some of the details of laying these floors?

The surface underneath should be smooth and free from bumps. The linoleum should be cut so that it will lap over at the edges three or four inches on all sides. Then it should be laid in place and sand bags, weighing from twenty-five to fifty pounds, should be laid all over it and should be left there for a couple of weeks or longer. Then the linoleum should be cut exactly to fit the floor, and this should be done very carefully by skilled people, using sharp tools. After the linoleum is cut, the pieces are taken up and relaid, piece by piece. Before each piece

is laid down, the cement which comes with the linoleum should be spread over every part of the under surface and should be used freely, preferably with a whitewash brush. Then the linoleum should be laid and fitted snugly, and the sand bag weights should be put on again and left there until the cement is thoroughly dried, which will take perhaps a week. After this you will find that the cracks between the lengths and at the ends of the room are very small, but they must be filled up with the same kind of cement. That will keep the water out everywhere.

After you have done all this you will have a thoroughly well-laid battleship linoleum floor. I doubt very much if anything should be put on these floors as a preservative for the first six months or a year. I have used raw linseed oil on them, and that has at least kept out the stains; hot water and soap will wash this oil off at any time, although I doubt if I would use it again, because it seems to soften the linoleum, and I think impressions are made by boot heels and table and chair legs more easily and deeply than if no oil had been used. I think the best cover for the linoleum at first, if it is to be tramped by workmen, would be paraffine. This can be scraped and put on as we do for a dance floor. A better way still is to melt it and put it on with a whitewash brush. Then, after the workmen are out of the building and the furnishings have been put in, and the room ready for use, this paraffine can be taken off with hot water, and the floor will be as clean and pretty as when it was laid.

I think the best permanent preservative for battleship is the ordinary shellac floor varnish, which we know as spar varnish. That is the treatment used at the Massachusetts General Hospital and the Peter Bent Brigham, and Dr. Howard, who initiated that practice, finds that the floors give no further trouble.

JOHN A. HORNSBY.

Land Values Affected by Hospitals.

To the Editor of THE MODERN HOSPITAL:

We are asking for the location of a tuberculosis sanatorium in a neighborhood not very far from a little village, a group of dwellings. As there are two or three stores in the village, the residents say that patients at the sanatorium would go into the village to purchase things, or as a relief for the loneliness of the institution, and would mix with the inhabitants of the village and transmit the disease. They also say that the presence of a sanatorium in the neighborhood would depreciate land so that it would be practically worthless. Is this true, and is a tuberculosis sanatorium or a hospital a hazard in a community?

A WOMAN WELFARE WORKER.

The hospital hazard in a community is an old fetish, and in the days when hospitals were infected from cellar to garret, and the source of infinite cross-infections, it is probably true that the hospital was a menace in a community. That isn't true any longer. The writer will cite just one instance within his own personal knowledge: In 1905, when it was proposed to build the new Michael Reese Hospital on the lake front of the south side in Chicago, land values were so depreciated that a number of pieces of property in the immediate neighborhood were sold under the sheriff's hammer, and the neighbors of the hospital deplored the fact that their homes were ruined and that they would have to sacrifice them at great loss.

As a matter of fact, the hospital was completed, and within sixty days from the time it was opened to patients its lawn became the neighborhood playground for the children, who became a great nuisance, and their parents grew indignant if the hospital protested against their going all over the place. When the neighbors found that unsightly cripples in their ward clothes were not placed on exhibition, and that windows and balconies were not decorated

with urine- and feces-stained mattresses, but instead of that there were potted flowers in the windows, plotted lawns and flower beds, and that, instead of the clanging bells of ambulances rushing to and fro, there were processions of beautiful ambulances coming and going, bringing and taking prominent men and beautifully dressed women, the whole situation changed, and the lands jumped up in price until the hospital, when it wanted to build other buildings, had to pay extortionate prices, prices more than 100 percent—in some cases 200 and 300 percent—greater than would have had to be paid for lots ten blocks away. So the hospital blight in at least that one case turned out to be a great benefit to the whole neighborhood.

Dr. Evans, of the *Chicago Tribune*, has recently looked into this matter also, and published a long article on the subject in his syndicate of papers on August 2, in which he quotes a number of prominent sanatorium people on the subject. We append a partial list of those who wrote to Dr. Evans, and what they said:

Dr. Garvin, of Raybrook, reports that the value of land around there was about \$4 before the sanatorium started. It now ranges from \$50 to \$160 an acre.

Dr. Lyman, of Wallingford, Conn., reported: "All land has more than doubled in value."

Dr. English, of Glen Gardner, N. J.: "Increased at least 50 percent."

Dr. Nichols, of Hebron, Me.: "Increase of about 20 percent of valuation and tax."

Dr. Butts, of Eagleville, Pa.: "Increase 25 to 50 percent."

Dr. Pettit, of Ottawa, Ill.: "Increase 33 1/3 percent."

Dr. Sauer, of Hospital and House of Rest, New York City: "Increase at least 100 percent."

Dr. Barnes, of Wallum Lake, R. I.: "Land at least double what it was before sanitarium was erected."

Dr. Chadwick, of Westfield, Mass.: "Twenty-five to 30 percent increase."

Dr. Pottenger, of Monrovia, Cal.: "It has increased."

Plans for the establishment in Philadelphia of a hospital for the special study and treatment of diseases of the digestive organs were announced recently. The institution is to be known as the National Stomach Hospital. It will prosecute the work along four channels. The first step will be to open a dispensary for the treatment of diseases of the gastrointestinal tract and allied organs. Laboratories for examination and investigation of the diseases of the organs of digestion, a research department for the special study of the causes of cancer affecting these organs, and a school of dietetics for the study of food values will be maintained. Three members of the faculty have already been named; they are Dr. Ludwig Loeb, director of the department of medicine; Dr. Mitchell P. Warmuth, director of the department of surgery; and Dr. George E. Phaler, director of the department of laboratories.

Judging from press reports, it would appear that the "dammerschlaf," or "twilight sleep" method of childbirth, which originated in Germany, has passed the experimental stage in New York and other eastern cities. At the Jewish Maternity Hospital in New York the success of the method employed in 125 confinements has been such that the management feels warranted in building a seventy-room addition to be devoted to "twilight" cases, and has announced that work will be begun on such an addition in the near future. In the Bronx a \$50,000 corporation has been organized for the purpose of establishing a private "twilight" sanatorium. The Long Island College Hospital is said to have been using the method as a matter of routine since the return of Dr. John O. Polok from the Freiburg Clinic some months ago. It is reported also that the Hebrew Hospital, the Hospital for Women of Maryland, and the Johns Hopkins Hospital, all of Baltimore, are investigating the "twilight sleep" with the view of adopting it.

LETTERS TO THE EDITOR

Dr. Garrison Makes Correction.

To the Editor of THE MODERN HOSPITAL:

On page 12 (footnote) of THE MODERN HOSPITAL for September I notice that I am referred to as "Colonel Fielding, United States Army Medical Corps." Will you kindly note that, except for a first lieutenant's commission in the Medical Reserve Corps, I hold a civilian position (principal assistant librarian) in this office, but I am not in the regular line of the army.

F. H. GARRISON.

Chef Pleads for Recognition.

To the Editor of THE MODERN HOSPITAL:

In your excellent magazine, THE MODERN HOSPITAL, for the current month, among the highly instructive articles which it contains, I have been particularly interested in the draft of the hospital organization chart by Henry M. Wechsler.

Now, while the chart contains many good points, it seems to me that, considering the number of officials and employees who, according to the chart, would be required to run an institution of comparatively small dimensions, it looks more like a millionaire's castle than a sound and economical business proposition.

Your correspondent is not a professional writer, but takes his position on thirty years of practical experience in handling, inspecting, buying, distributing, and cooking all kinds of alimentary substances, and in all kinds of private and public institutions, and therefore claims to know "what's what." For this reason I am inclosing for the consideration of the readers of your periodical an organization chart of my own conception for an institution of from 300 to 3,000 inmates.

Now, Mr. Wechsler may or may not be familiar with the qualifications of the head of a department, which is one of the most important—I may say vitally important—divisions of an institution like a hospital. I mean the qualifications of the chef, whose prerogatives are constantly usurped by such persons as stewards, dietitians, housekeepers, and other unscrupulous persons who have an exaggerated opinion of the importance of their own jobs, but without assuming any of the responsible duties,

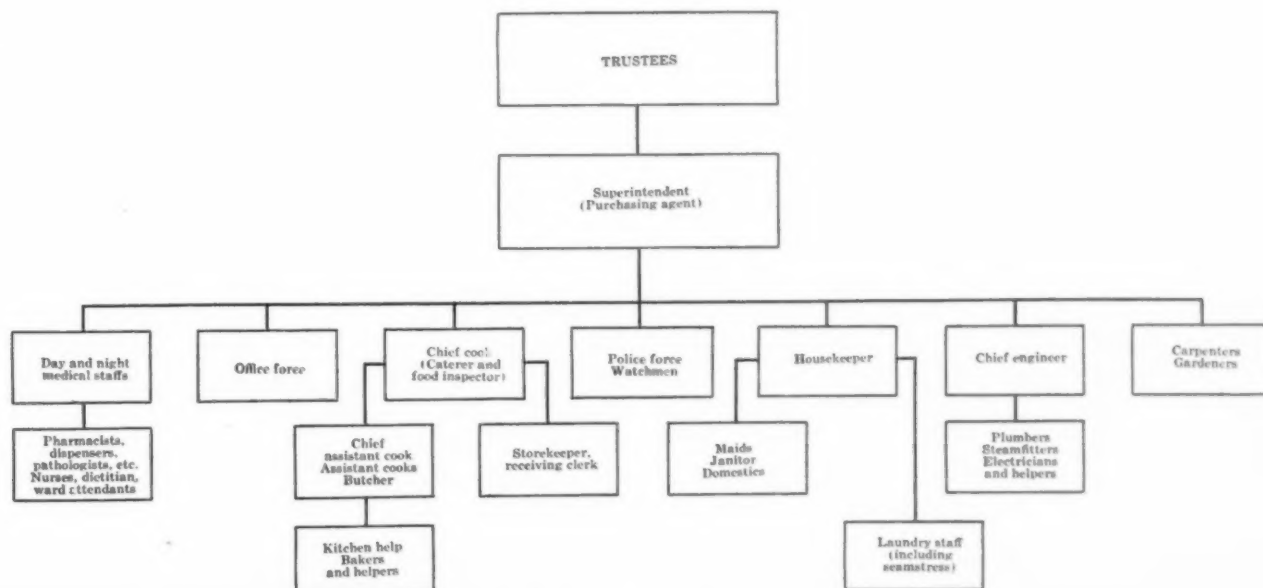
and who are continually taking the credit that by right belongs to the chef. The word "dietitian" may be a high-sounding and scientific title, but in effect is only synonymous with "transmitter," and transmitter only of doctors' orders. Every one of those worthy and officious persons considers and treats a chef as being socially, intellectually, and financially inferior to himself and to the stewards, dietitians, housekeepers, and nurses.

Now, in consideration of the justice of the position I take in this matter, I hope that you will be kind enough to give my letter the same publicity you gave Mr. Wechsler's article.

LEON PESCHERET,

Chef at the Cook County Infirmary, Oak Forest, Ill.

Plans and specifications for the new nurses' and employees' home at the Oneida County Hospital, Rome, N. Y., have been approved, and the construction work will be begun at an early date. The building will be 36x96 feet, three stories and basement. It will be entirely fireproof except the roof support, which is to be covered with 3-inch planking covered with asbestos roofing. The ceiling under roof supports will be constructed of wire lath, covered with cement plaster. The foundation walls will be of concrete. The walls will be of red brick, trimmed with gray stone, while the backing of the outside walls and all interior partitions will be made of hollow tile blocks. The corridors and stairways will have white cement wainscoting 5 feet high, provided with a cove base. The building will be thoroughly equipped with fire escapes. The floors will be of hard, white maple on strips embedded in reinforced cement, except the toilet rooms and baths, which are to have tile floors. The entrances will all have tile flooring, while the floors of the corridors on the ground floor, reading room, kitchen, and dining room will be constructed of cement, with waterproofed cement finish. The interior wood finish will be of plain oak of a neat and simple design. Stairways will be constructed of reinforced cement. The heating of the building will be effected by vacuum steam taken from the steam main of the general heating plant of the Oneida County Hospital. The toilet rooms will be provided with separate air chambers and electrical fans, which will discharge the foul air through separate duct and ventilator to the roof. Bath rooms are provided on each floor. The structure will be completely wired in steel conduits for lighting all parts. The lighting fixtures will be semi-indirect, thus giving uniform light distribution, with little shadow effect. Piping will be installed for placing a vacuum cleaner. It is estimated that the completed building will cost approximately \$35,000.



Hospital organization chart by Leon Pescheret.

HINTS FOR HOSPITAL SUPERINTENDENTS.

Even the smallest hospital can have cracked ice for ward use. It is not good practice to compel nurses to gouge a piece off a big cake of ice in the box and crack it up whenever it is needed. Nurses do not always aim straight, and once in awhile the ice pick will go through the zinc or porcelain lining instead of through the ice. It is pretty hard on a towel to put a big block of ice in it and pound it on the floor; and it is hard on the nurse's hands to crack it in the open or in a box. A Little Giant or some similar ice cracker should be used to crack ice for the ward units. It can be put in a pail and set inside the refrigerator or ice box. If the pail is set on or against the ice, it will keep better. A shelf for the purpose is generally reserved in brine-cooled boxes.

It is coming along fall—that season between the heat of summer and the cold of winter when it is hardly cold enough to require artificial heat in the hospital and hardly warm enough to be without it. Better get your artificial heat going a little early rather than late, and take care of your humidity and the movement of your air in your rooms and wards. We know now that bad atmosphere of hospital rooms is due, as a rule, not to a lack of good air, but to the presence of dead air and the absence of sufficient humidity. If you can keep your room or ward at 65°, with a relative humidity of 60° or even 50°, and keep your air in motion by the use of a fan, your patient will be comfortable, whereas a temperature of 70°, with a low humidity and with motionless air, will be extremely uncomfortable, and the room will be smelly and musty. Keep your air moving, keep your humidity up, and you will save fuel and add to the comfort of your patients.

There is a word to be said about soaps in connection with the great European war. All our potash comes from Germany, and most of the finest soaps, including the green oil soaps, are made with potash. The day before war was declared potash was worth 4½ cents a pound; today it is worth 25 cents, and if the war continues it will be worth \$1, and potash soaps will be prohibitive. But we are a versatile people, and, when the worst comes, our soapmakers will make good soda soaps, and they will find something to harden the soaps without having to use cheap fillers. Better begin to think about using soda soaps for everything in the hospital, excepting the hands and face. Castile soaps will be impossible to get presently, and their place will have to be taken by the so-called "float" soaps, which are soda soaps whipped up until they are full of air particles, and these soaps will answer nearly every purpose with careful use. The green oil soaps may have to be used, in spite of their high price, for washing wall paints, because the potash soaps are very much better for wall washing and do not take off the paint.

One of the problems of hospital management is what to do with delirious cases, especially alcoholics. There is no earthly excuse for sending delirious typhoids and pneumonias out of a hospital, and it is criminal to do so. Delirium tremens is an acute infection due to the cumulative effects of alcoholic poisons. Alcoholics are sick just as any other patient with an infection is sick, and he should get the same care. We have got past the shackles and "the solitary" and the padded cell for delirium tremens. The new psychopathic hospitals are teaching us how to take care of these patients and how to get them

well. They are teaching us that depressant drugs and shackles cost more lives than any other method of treatment. Heart stimulants and hydrotherapy are the practice today, and, if these are properly done under the doctor's orders, hospitals will have very little trouble with the noise and refractoriness of alcoholics. The continuous bath, or a hot or cold pack, as the doctor orders, will generally quiet the noisiest patient, but these people should be taken out of the ward and put in a room by themselves during the period of disturbance.

Almost every day we are hearing of one or more commodities that are to be cut off because they are "made in Germany," or some other European country that is so busy with its war that it cannot attend to commercial affairs. It will be surprising to a great many of us to know how many things are made in Europe, and to the source of which we have given no thought in the past. There is no question that the war will do a most wonderful thing for this country in teaching us to make the things that we have been getting abroad. Twenty-five years ago nearly all of our cotton goods were made in England. We raised the cotton over here, sent the raw material to England at an extremely small profit, to be made up into cloth and garments over there, and we paid huge profits for the finished article when it came back to this country. Now we are making our own cotton goods, and, while the import duties have allowed our manufacturers to rob us, yet the money is kept in this country as a rule. What was true of cotton many years ago is true now of a great many things, and no doubt we will be making them by the time the European war is over. In the meantime it will be a mighty good thing if hospital superintendents will do some pretty hard thinking about substitutes for European things that will cost many times more than they have been costing in the past.

Dr. Charles H. Mayo told us at St. Paul the other day that if our medical men and surgeons made proper diagnosis before the operation, and did only necessary surgery, and did it well, so that their patients would recover rapidly and completely, the finances and efficiency of the hospital would be enormously benefited. While we are slaving our heads into a whirl, and trying by every expedient of an eighteen-hour day to save the pennies and dimes, let us see whether our doctors are doing their business right. Dr. Mayo told us further that if hospital records were properly kept, they would show whether the doctors were doing good work or not. Let us think a little about these things, and, while the doctors are asking more and more every day of their hospital, let us see whether they are giving the best they have to the hospital's work, and let us see whether the best they have is the best there is in the modern science of medicine. If not, we had better make them work their way up to the last minute in their literature and in the scientific mediums at their disposal. And let us see whether they are putting the proper amount of work and time into the business of the hospital. The hospital makes a doctor, and, as a rule, he is a success or a failure in his profession in accordance with the amount of clinical material and facilities he gets in his hospital, and according to the use he makes of these. We had better be thinking about whether the doctors are giving a quid pro quo for what they are getting.

Bonds to the amount of \$100,000 were recently voted at Chattanooga, Tenn., for the improvement of Erlanger Hospital.

A SUBSTANTIAL TESTIMONIAL.

Hazleton (Pa.) State Hospital Possesses Fine Ambulance Presented as a Gift.

At a banquet given last winter by the people of Hazleton, Pa., in honor of Dr. Walter Lathrop, superintendent and surgeon of the State Hospital at Hazleton, some one suggested that it would doubtless be very pleasing to the doctor for them to do something more substantial, and it was then and there decided that the best automobile ambulance obtainable would be bought and presented to the hospital as a further testimonial of appreciation of Dr. Lathrop's service in the hospital and in the community. Accordingly subscriptions were solicited and contributions were made by people in all walks of life. As a result the State Hospital at Hazleton possesses probably the best and most thoroughly equipped ambulance ever built. The chassis is a six-cylinder White, and the body was furnished by the Rech-Marbaker Company, of Philadelphia. Following is a full description of the body with its equipment:

The body of the ambulance is 7 feet 9 inches long back of front seat, and 3 feet 3 inches wide inside on the floor. It has swell sides of solid wood panel, with four windows on each side in the doors. All of these windows drop, while the windows at the side of the driver are permanent. The front corners are round, and the upper part is filled with permanent glass. The frames in the windows are of colonial style and the glass is beveled plate. There are double doors at the rear, and in each of these doors is a drop window of the same design as the side. All windows are equipped with antirattlers and rubber edges on the sash, so as to eliminate all rattle. One side of the body, back of the driver's seat, is equipped with a door, while the other side is molded so as to give the appearance of a door. These doors are equipped with lever locks of the latest improved pattern. The front is supplied with a rain vision wind shield. The front compartment, in which the driver and attendant sit, is luxuriously upholstered in leather, with spring cushion and lazy back stuffed with the very best curled hair. The rear of the body is furnished with a step that folds upward, so that boys will not be able to ride on it. This step is made large and is easy of access. A 16-inch nickel-plated gong is placed on the side by the front seat. This gong has an improved lever arrangement that enables the gong to be worked with a hand lever from the inside of body.

The interior of the body and the sash are finished in solid mahogany. The floors are covered with heavy battleship linoleum, with round corners. This is made so that it can be cleaned very easily.

The equipment consists of two stretchers on rubber-covered rollers, which make them noiseless; a locking device to hold stretchers in place; one flexible stretcher, which is strapped in the top corner of the ambulance so as to be out of the way; one medicine chest; one inside brass lantern; two dome lights in the roof, worked by push button; silk curtains of a shade to harmonize with the coloring of the body, with spring rollers attached to all windows on the inside; one electric fan; one heater, Pullman lavatory, with folding basin and drain pipe; one Draeger pulmotor; one physician's valise; Pyrene fire extinguisher; one set of tire-saver jacks; one Klaxon horn.

Seats for the attendant are fastened to the back of the partition, between driver and ambulance body proper. There is also one double seat at the side for friends of the injured. These seats have cane bottoms and are made to swing up out of the way when floor space is needed.

The vehicle is handsomely painted in dark carmine with black moldings.

ROUTINE DISINFECTION BY HEALTH AUTHORITIES.

Technic in Vogue in This Country Generally Useless and Practiced to Quiet "Fears of the Family"—Scientific Principles Must Be Applied.

BY OUR NEW YORK CORRESPONDENT.

The publication and general acceptance of the researches of Koch and Pasteur revolutionized methods employed in preventive medicine, and, by establishing the germ of origin of infectious diseases, placed sanitation on a strictly scientific basis. Many specific organisms have since been discovered, and sufficient accurate knowledge accumulated regarding causation, as well as the media by which infectious diseases are transmitted, to render the disinfection processes practiced by most health boards in this country absolutely unjustifiable. Many of our health boards continue to disregard facts, and cling tenaciously to theories that scientific research and practical experience have proven erroneous. Sanitary science can no longer accept theories relating to the transmission of infectious disease that are unsupported by reliable laboratory evidence. Careful investigations, conducted by sanitary specialists, leave little doubt that infectious diseases are transmitter rarely, if at all, by fomites, and almost always directly from one person to another or through the media of food or drink, or by insects.

The farcical burning of magic powders, incantations, etc., for the prevention of disease, as well as the drastic burning of houses, are things of the past, but the public have still an extravagant idea regarding the necessity of extended use of disinfectants. The "fears of the family" are doubtless responsible for the universal disinfection of rooms after recovery of cases of infectious troubles, even where proper sanitary measures have been carried out during the course of the disease. In New York from 60,000 to 80,000 rooms per year are disinfected by the board of health. The rapid and effective permanganate method of generation of formaldehyd gas is employed, and care taken to close all chinks by generous use of adhesives and cotton. The rooms are left closed at least four hours, and then the woodwork, etc., is thoroughly washed with hot water and soda. Clothing, bedding, etc., is removed to the nearest municipal disinfecting station. These stations are equipped with steam disinfecting chambers (4x5x12 feet), built into the massive walls to enable feeding from the "soiled" room and delivery of packages after disinfection from the "clean" room. Thirty-five pounds pressure is used in the chambers for about half an hour. The steam is then removed and the goods dried by the vacuum method, this consuming another half hour. Books, records, etc., suspected of contamination are disinfected with formaldehyd gas in a closed chamber arranged with perforated shelves. Three times the quantity of formaldehyd gas used for disinfecting a room of 1,000 cubic feet is generated in this chamber, and the books are exposed for at least twelve hours. The health department destroys all books that may have come in contact with smallpox patients, each year burning 2,000 or 3,000 from circulating libraries. They also destroy clothing, bedding, etc., from apartments that have been occupied by typhus patients. School rooms and offices are thoroughly cleansed with hot water and soda in the event of an infectious case having entered.

New York City established the first municipal bacteriological laboratories, and uses bacteriological methods not only in diagnosis, but in determining efficiency of the routine work of disinfection. Its corps of disinfectors

numbers forty-five, with salaries ranging from \$750 to \$900 per year. A daily printed list of infectious diseases, giving at a glance the incidence in the various boroughs, is issued to schools, libraries, branch offices, medical inspectors, nurses, and institutions. In the near future we may look to New York City, the pioneer in the inauguration of scientific procedures in general sanitary work, to greatly limit municipal disinfection, especially of rooms, following infectious illness, inasmuch as it now enforces isolation, cleanliness, prompt destruction of discharges and other infected material during the course of the disease.

INNOVATION IN MUNICIPAL HOSPITALS.

Wilkes-Barre (Pa.) to Have Separate Hospital for Private Patients, to Cost \$160,000.

A municipal hospital for private patients exclusively is to be erected at Wilkes-Barre, Pa. It will be separate from the present city hospital, although under the same management. The *Wilkes-Barre Record* gives the following interesting description of the proposed structure:

"The main wing of the building will be 132 feet long and 43 feet wide. Connecting with this at a sharp angle will be a wing 113 feet long. The building is to consist of three stories and basement. Brick, with terra-cotta trimming, is to be the material. The main construction will be of steel, with hollow tile, concrete, and the tile floors.

"The shape of the building allows all private rooms to face the east and south, so that they overlook the large space of grounds which are to be developed as a park area. There are, however, one or two sick rooms placed on the opposite side of the hall from the courts, so that they may be used where the bright sunlight is objectionable.

"Forty bed rooms are to be provided, many equipped with adjoining baths; in fact, there is a bath between nearly every two rooms, affording an opportunity for the patient to use the room with or without bath, or even to engage the next adjoining room and have a suite with sitting room, bed room, and bath.

"On each floor there will be a nurses' duty room at the angle of the hall, inclosed by a bay window and here the nurse in charge of that floor will be on duty constantly. Through the windows of the duty room the nurse can watch everything that transpires in either hall. She has an unobstructed view in both directions. The advantage of this design is augmented by a signal light system that is being installed. The patient is furnished with a hanging bulb switch, placed near the bed, and when something is desired the button will signify the call by a light over the door. The signal is not only shown over the patient's door, but also in the duty room on that floor on the annunciator and by the same means in the head nurses' office on the main floor. A nurse is immediately sent to answer the signal light's call. If the nurse finds need for a second call, in case of emergency only, she may press a button on the wall, away from the bed, which lights a red light over the door, gives the same light in the duty room and rings a bell in the main office.

"There are small serving rooms on each floor connected with the main kitchen and serving room in the basement by electric dumb lifts. The main kitchen is completely equipped with apparatus for preparing the special diet foods required by the patients and also for the more substantial foods for convalescents. The serving rooms on each floor are equipped with electric warming pans, hot and cold water, and appliances for serving broths, etc., at regular intervals without delay.

"There is a refrigerating plant in the basement used for the main food refrigerator, and it also circulates cold water through the building to the small refrigerators in each serving room. Besides this there are artificial ice manufacturing machines on each floor, making ice for cold packs, ice caps, cold drinks, etc.

"On each floor at both ends of the building there are wide sun porches screened in and designed so that they may be completely inclosed. These may be used by the convalescing patients. The roof is also to be equipped as solarium, being roofed in, for exercising and recreation purposes. Around the margin of the roof there will be parapet walls. These will be covered with tiling, making a promenade space.

"There will be two electric elevators for transferring patients and guests from one floor to another. The dumb lifts are the latest calling and sending electric machines. They may be brought to any floor by means of a push button and sent to any destination by means of another series of buttons.

"Besides the main entrance hall, office, and waiting room, there will be fourteen private rooms on the first floor and a bath and suite of rooms for the resident physician. The ambulance entrance will be in the basement, where also will be the kitchens, storage rooms, machine rooms, etc. The basement will be for the most part above ground because of the grade of the site. Because of this fact there will be found rooms in the basement equipped as living and sleeping apartments for special nurses who might be on duty in the building. The basement will also include the hydrotherapeutic establishment and x-ray department, these being thoroughly equipped with all modern apparatus.

"On the second floor there will be sitting and reading rooms for the convalescent patients, besides sixteen sick rooms.

"There will be two operating rooms on the third floor, a main room and secondary room, besides the etherizing room, doctors' dressing room, sterilizing room, lockers, etc. In the operating rooms the hexagonal tiling will be of a dull gray color instead of the usual pure white. The idea of this change is that the appearance is just as cleanly, while the floor does not reflect the blinding glare which often interferes with the surgeon's work while bending face downward over a patient. There will also be nine sick rooms on the third floor.

"The lighting in the entire building will be by the indirect system. The electrical equipment and wiring is decidedly novel and complete. Besides the lighting system, there will be the signal light call system, with its emergency equipment, electrically operated elevators, electrically operated thermostats to control the heating system, and intercommunicating telephone attachments in each room, which also will connect with the city for long distance lines.

"The telephone equipment will include about seventy-five stations, and it is probable that the stations of the old buildings will be included and all be operated by the same exchange. Heat will be furnished by a double indirect fan system. There will be a fan sending warm air and another fan drawing the used air to and from each room. The temperature of each room can be regulated to any degree of heat or cold by the electrically operated thermostats. But no matter what degree of heat or cold is desired, there will be the same amount of pure, fresh air in each room.

"The tunnel under Auburn street, which will connect the old institution with the new building, will be made large enough to carry steam pipes, electric ducts, etc., besides providing a passageway for the transferring of supplies and equipment apparatus and patients if necessary."

The plans were prepared by Sturdévant & Poggi, local architects.

Under a bill recently introduced in Congress by Representative Raker, of California, all regularly organized and incorporated fraternal bodies would be allowed to obtain tracts of government land for sanatorium purposes. The main object of the fraternal organizations is to obtain, in each case, a sufficiently large tract of land upon which a modern sanatorium may be established in arid, semi-arid, or mountainous states in a salubrious section, where the ill members of the organization may be treated and cured, particularly in cases of consumption. The Public Lands Committee has reported to the House that there are large tracts of land in the public land states which are practically useless for individual holdings. The bill permits the secretary of the interior to withdraw or reserve the land applied for, for not exceeding two years, to enable any fraternal organization to investigate and determine the condition of the climate, soil, water supply facilities, and other questions before obtaining patent. Then the organization could get not exceeding four sections of unoccupied nonmineral, arid, semi-arid, or mountainous land by placing substantial improvements, the land to be used exclusively for sanatorium purposes and, if not so used, to revert to the United States.